Introductory Lecture

ON

"INDIVIDUALISM IN ITS RELATION TO MEDICINE."

Delivered at St. Mary's Hospital Medical School at the opening of the Medical Session, Oct. 1st, 1890.

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LADIES AND GENTLEMEN,—As I stand before you this afternoon to deliver the message of welcome which marks the commencement of another winter session, my memory carries me back involuntarily over exactly a quarter of a century, and I find myself a boy, sitting on the benches of our old anatomical theatre and listening to my father as he delivered the introductory address of Oct. 1st, 1865. Little did I imagine, as I heard the eloquent sentences and laughed over the amusing anecdotes of that opening lecture that before many years had passed the old order would change, and that on me, as the representative of the new, would fall the responsibility of the function then so ably discharged. Of late years it has become the fashion to speak somewhat disparagingly of this October meeting, to vote the whole performance a failure, and to regard the address as so much garrulous garbage. I, for my part, shall dissent most strongly from such a view; if failure be present, it is not in the spirit of the thing, but in the mode of performance. I have gathered and stored many gems of intellectual truth at these addresses; I have learnt many useful life-lessons which I am now practising to my own advantage; and I have taken to heart many warnings which have safely steered me through the numerous crevasses and pitfalls which beset one's commencing career. Moreover, there are three distinct advantages to be gained, as we meet together for an hour of social intercourse this afternoon: the teaching staff is enabled to put forward its Mercurius, or chief speaker, and to say to those gentlemen who appear among us for the first time to-day, "You are welcome; our friendship, it is true, is as yet but an embryonic growth, but development is taught at St. Mary's, and growth is assured." Then, old friends of the second, the third, and the fourth year, is it not a distinct advantage that we should have the opportunity of meeting together as soon as possible after vacation absence, and of knitting up once more the friendships which we formed in the laboratory, the ward, and the out-patient room? And, finally, fellow-students, both teachers and taught (for every man here is but an explorer in the dark forests of medical science), is it not a gain that we here, standing as we do on various steps in the upward slope of medical education, should meet and recognise, if only for a short space, that we are bound together by the threefold tie of *liberté, égalité, fraternité*—the liberty of intellectual research, the equality of a noble calling, and the brotherhood of sharing in the relief of suffering?

My task to-day, however, is twofold. Not only have I to offer the message of greeting to friends, old and new, but I have also to endeavour to bring before you some thoughts for consideration which may speak to your hearts and commend themselves to your intelligence. Many a previous lecturer has felt and owned the difficulty he had experienced in choosing a suitable theme for his discourse—no one, believe me, more keenly than I do to-day.

It has been well said that a man can only teach the lessons he has himself learnt—that he can only reach the hearts of his hearers as he speaks from his own experience; and so to-day I will not attempt to emulate the weighty utterances of an Alderson, a Sibson, a Sieveking, or a Lane, those past grand-masters of our craft. I will quote—

> Not from the grand old masters,
> Not from the bards sublime,
> Whose distant footsteps echo
> Through the corridors of Time.

But I will lay before you some ideas, very commonplace in themselves, but which have riveted my attention for some years, and which have played a not unimportant part in moulding my life and practice. It may be that the application of these ideas may prove of some service to you in the future battle of life. Let us, then, take as our theme "Individualism in its relation to Medicine"; and firstly, let us endeavour to make clear what is to be understood by this term. *Individualism* is not eccentricity; it is not mere singularity; it is not coarse ambition. Scientifically considered, individualism is the higher evolution of the atom or unit; viewed from a social standpoint, it is a process of intellectual development by which a man is marked out from his fellows. Individualism implies concentration of thought, tenacity of purpose, and a strong sense of self-reliance. It is the religion of the strong man, the master principle of his whole existence. Of this an old writer says: "As every machine has its mainspring, every animal body its heart, and the whole natural universe its sun, so, amid all the multiplied and intricate movements of our individual and social life, there must be one *master principle*—one all-regulating, all-impelling spring of action. If *this* be wrong, then, however fair and promising to ignorant observers, *all* is wrong. Human life should resemble a well-constructed drama. There may be variety, there may be episodes, but unity of action is indispensable, and all that is not in keeping, so as to swell the interest of the grand catastrophe, should be struck out as incompatible with all sound and wholesome criticism." If we seek a perfect exponent of this grand principle, we find it in the person of the Christus—that divine and human figure which men in all ages and in every clime have loved to contemplate. In Him every power and every thought were developed and concentrated on one aim; He clung to the set purpose of His life with a tenacity which has never been rivalled; strong and reliant, He held the truth of His own teachings in the teeth of an opposing world.

The great enemy to individualism is laziness, and those who know anything of human frailties will, I am sure, bear me out when I say that "mental" laziness is far more common and far more difficult to overcome than that of the body. It is so much easier to accept dogmatic teaching, and to shift the responsibility of our views on to others, rather than to concentrate our thoughts and work out the lessons of our own observations; it is much more pleasant to butterfly from theory to theory than to seek truth with patient tenacity; why trouble ourselves to learn self-reliance, when natural indolence protests against the sacrifice? It is easier to imitate than to originate; plagiarism and mimicry are such prominent features in our lives, that their presence might almost be quoted as an argument in favour of our evolution in past ages from simian ancestry? How plausible are the excuses we make for our want of this individualism? We are so dreadfully afraid of being thought bumptious, we are so delightfully humble, we really do not wish to intrude our opinion, and yet all the brightest lights of our profession have been men of strong individualism. Harvey thought for himself, planned by patient investigation his theory of the circulation of the blood, and then, in the face of an opposition which cost him for a time his position, his reputation, and even his practice, dared to assert and stand by those views which we hold now as the fundamental principles of our art. Sir Joseph Lister stood very much alone, when, after deep research and careful experiment, he first promulgated his theory of antiseptic operating and paved the way for fresh and undreamt-of triumphs in the domains of abdominal and cerebral surgery. Ovariotomy had such a fearful death-rate at one time that its performance was held to be almost criminal; yet Sir Spencer Wells came forward, almost unsupported, and taught us that the operation was not only justifiable, but capable of being made the most successful of all the triumphs of surgical skill.

Names such as those I have just referred to may perhaps suggest the thought that individualism is another name for genius. The descriptions of genius have been many; thus Dr. Maudsley says in his work on the Physiology of the Mind: "He who has what is called *genius* is in harmony with and assimilates the best thought of his own epoch and of preceding epochs, and carries it forward to a higher evolution. An age which lacks that impulse of evolution which the genius embodies is apt to harden in obstructive formula." For myself, however, I will define genius as the highest product of individualism, and I will add that while few human beings reach genius, no human unit is without his share of individualism. Moreover, the more I study the life of a so-called genius such as Hunter or Newton, Faraday or Darwin, the more I am

struck with the enormous amount of work which they contrived to compress into one short life. Longfellow probably had the same thought in his mind, when he wrote:—

> The heights by great men reached and kept
> Were not attained by sudden flight,
> But they, while their companions slept,
> Were toiling upward in the night.

I have stated that no human unit is without his share of the quality which we are considering; it needs only that he should be true to himself, and develop it. I have supported my argument by examples drawn from the highly educated classes, but I can with equal truth quote men engaged in what are termed the humbler walks of life. It is well known that for many of the great improvements in modern machinery we are indebted to working mechanics, men who, with no advantage save the education of experience, have worked out their individual conceptions and revolutionised the course of an industry. I may be allowed to quote one interesting example. In the days of the old Enfield rifle, a large manufacturing firm in Birmingham used to make the barrels of these rifles for the Government. The process was in the main a simple one, the only difficulty being in securing that the barrel should be absolutely straight and true. To secure this latter point often occupied some time, but it was known that one particular workman had some secret of his own, by which he was enabled to glance down the barrel and say at once whether it was perfectly true or not. The man was often pressed to reveal his secret, but always declined. At last, one day for a drink and some £200 he sold the mystery. It seems he had noticed the simple fact that when the tube was absolutely straight no shadow was formed on looking down it towards the light, but if the slightest deflection existed a shadow was thrown on one or other wall of the barrel. Our argument, then, so far as we have followed it out, has brought us to three principal conclusions: firstly, that every man, whatever his station in life, is endowed with a personal equation of thought; secondly, that he can either simply store the raw material of facts and ideas as they are presented to him by others, or he can digest them and reproduce them stamped with the seal of his own individuality; thirdly, that it rests with ourselves either to be mere echoes of knowledge, or else "living voices" recording our own gleanings of truth for the help of coming generations.

Let us now apply these thoughts to the special region of medical education. In his "Moral Philosophy" Professor Stewart puts down *reverence for great names* as one of the principal hindrances to the spread of real knowledge; I wish he had written "to the acquirement of real knowledge," for I am firmly persuaded that no student has reached the first stage of progress until he has subordinated reverence for great names to a profound respect for his own individual opinion. Pray do not misunderstand me; I am not advocating disrespect for our teachers, but I would rather a student formed an erroneous diagnosis and stuck to it, provided always he could give me his reasons for having formed such a judgment, than that he should accept my dictum as a teacher without challenging me for the grounds on which I ventured to differ from him. A man has made a tremendous stride when he has learnt to have the courage of his own convictions; he has passed the Rubicon of his medical career, when, for the first time, having honestly formed an opinion and adhered to it, the sequel proves that he was right and his teacher wrong. When a man leaves his *alma mater* and steps out into the new world of private practice, he finds that his first difficulty is not in forming a correct diagnosis of the disease, but in maintaining the conviction of his own opinion in the face of an unconfiding patient, suspicious relatives, and competing *confrères*. Unless he has already learnt to stand strongly in self-trust, self-respect, and a belief in his own individualism, he will never impart confidence to his patient, and I envy him not his peace of mind. The student who believes in his own opinion will take trouble to perfect himself in those means by which alone he can arrive at a correct judgment; the student who begins by criticising his teacher's diagnosis will find more and more that his view coincides more and more frequently with his teacher's, and out of honest doubt and tried experience mutual respect and love will spring; for experience dwells not in whitening hairs, but in the use of opportunities. I cannot help thinking that teachers often err grievously in making diagnoses for their classes instead of guiding the individual student towards a correct solution of the case. Of course, in the first few weeks of a clerkship or dressership a man must be taught to recognise râles and rhonchi, friction and crepitus; but this embryonic stage once passed he cannot too soon be made to feel that he is *personally responsible* for the diagnosis and treatment of each case, and that the skilled and experienced senior is there to do the task with him, but not to do the task for him.

I am often struck with the marvellous courtesy shown to us teachers by our student friends. The clinical physician gives a detailed account (after lengthy and patient auscultation) of certain complicated murmurs, and then five or six gentlemen advance with their stethoscopes, and after a brief and rapid examination *confirm* all that the professor has said! Our great physician-poet (Dr. Oliver Wendell Holmes) has parodied the scene most perfectly in his famous Stethoscope Song. The young physician has a new stethoscope in which two flies have made their nest unknown to him, and the buzzing of these insects produces certain unusual clinical phenomena; however, the physician is a new light from Paris and much looked up to by the students, so his diagnosis on a special case is awaited with much interest. Kindly picture the scene, as he advances to the patient's bedside followed by the class.

> Then out his stethoscope he took,
> And on it placed his curious ear;
> "Mon Dieu!" said, he, with a knowing look,
> "Why, here is a sound that's mighty queer!
> The bourdonnement is very clear—
> Amphoric buzzing, as I'm alive!"
> Five doctors took their turn to hear:
> "Amphoric buzzing," said *all the five*.

From personal experience I can speak to this point, for in one case where by way of experiment I demonstrated the fœtal heart over an ovarian tumour, some seven gentlemen kindly confirmed my suggested diagnosis. Perhaps I may be permitted to add that occasionally I have had some little difficulty in determining whether mental inertia or an excess of courtesy was predominant in the mind of my clerk.

I cannot resist pausing here to express my regret that the modern system of medical examinations handicaps our students so heavily in the development of individual thought. Mr. Edmund Owen, in his recent presidential address to the Harveian Society of London, humorously compared the head of a student of average ability to a quart pot, and bitterly complained that the examining boards expected it to do the impossible feat of containing and retaining three pints—one of medicine, one of surgery, and one of midwifery. He pointed out, too, that the usual way out of this difficulty was for the student to go up and empty out his pint of Surgery, coming down again for the remaining quart of medicine and midwifery. Paradoxical as it may seem, I must express my conviction that the three pints could be easily accommodated in the said quart pot, if the three liquids were not so frightfully adulterated with useless theories and vexatious hobbies. Here I am completely at one with the views expressed by Mr. Lawson Tait in his address on Surgery, delivered in July before the British Medical Association. In the present day our London examining boards demand from the student a knowledge not only of general medicine and surgery, but also of the specialties, which is vastly greater than was required ten years ago. The intellectual shelves of a man's brain are only capable of accommodating a limited number of knowledge bottles; and if increasing room is needed, it must be met by emptying out some of the old contents and by a process of careful selection in choosing the materials for new storage. It largely depends on the quality and nature of the final examinations whether our men are turned out over-stocked repositories of examiners' special fads and gifted exponents of the latest passing theory, or whether they be men trained in the habit of exact thought and rational practice, gifted in the use of the stethoscope, the scalpel, and the other armamentarium of their craft.

Returning, however, from this tempting digression, I must ask your attention to another phase of our subject. Sir Henry Roscoe, in his address last May, remarked that St. Mary's turned out many able, intelligent, and highly educated practitioners of medicine, and the sentiment was vociferously applauded; but, he added, these gentlemen, however, do not carry out any original work. I think he was wrong; I believe I could at this moment mention many St. Mary's men who have added largely to our stock of knowledge. But is it not true nevertheless that

numbers of our students, men who have made themselves the marked men of their year, men who have developed their individual faculties in a strong degree during their hospital career, pass out from their *alma mater* into the busy ranks of the general practitioners, and then, choked by the cares and *in a few cases* the riches of this life, never fulfil the promise of their early years? Many hold a false view that only the holders of hospital appointments can carry out original research and develop their individual ideas. Could a greater fallacy exist? How little we know of the relations between pregnancy and cardiac disease! Could not the busy practitioner who sees some two or three hundred cases of midwifery a year give us some valuable and novel information if he would observe and record his results? Is the value of perchloride of mercury in the malignant sore-throat of scarlet fever or of diphtheria as yet a settled point, and if not, to whom shall we look for a definite answer more reasonably than to those who constantly meet these diseases in practice? I do not undervalue the difficulties of the work: I know full well how hard it is after a long, weary day of toil to sit down to write up one's notes; what a spur to one's energies is needed before one undertakes the task of commencing that paper which is to give to others the benefit of our own experience; how difficult it is in the rush of practice to be accurate; what a tendency there is, when a maximum of cases have to be seen in a minimum of hours, to slur over the necessary work. Sir James Paget once said to a friend starting practice: "Scientific work is not remunerative, but science has done so much for you that I pray you do a little out of pure love to science." Dr. Abercrombie, a hard-worked general practitioner, before he became the eminent consulting physician, writes to an old student friend as follows:—"In your professional conduct you are well aware that no respectability or eminence can be attained without the most minute attention and the most unwearied diligence. All other considerations must be sacrificed to your own professional improvement, and to the interests of those who are committed to your care. The life of an immortal being is a serious trust, and the mind must be applied to it with a gravity and earnestness in some degree proportioned to its high importance. Survey the world anew, not as a source of pleasure and indulgence, but of high duties and awful responsibities, where each man has his place and his duties assigned to him, and the eye of the eternal God is over all." Medicine is indebted for her slow but steady progress to the small but oft-repeated contributions of her children. Let no man say that he has no originality in his composition, no individual gifts; there are ten-talent men and one-talent men, but each has something to contribute. The onward progress of our great science is like that of the mighty glacier, slow, irresistible, almost imperceptible, though here and there the rugged icefall, towering pinnacle, and yawning *séracs*, tell of a sudden forward movement. If we search, however, for the cause of growth, we find it in the quiet, silent snowfields above; each tiny flake as it fell seemed so small and so insignificant, yet each has added its tiny weight, and the ever-accumulating mass is rolling on that enormous ice stream in one constant, steady progress. Professor Maudsley, in his description of genius, tells us that "it is by the patient and diligent work at systematic adaptation to the external by the rank and file of mankind; it is by the conscientious labour of each one, after the inductive method, in that little sphere of nature, whether psychical or physical, which in the necessary division of labour has fallen to his lot, that a condition of evolution is reached at which the genius bursts forth."

Thus far, then, we have been viewing individualism in its relation to Medicine, principally on the ground of our own evolution and intellectual development; I will now, in conclusion, ask you to view individualism in a different phase, to study briefly the relations of the practitioner of medicine to the sick man who seeks his help and skill. One of the great charms of medicine lies in the fact that it presents no monotony to its student; no case is quite like the preceding one, no disease quite like the description in the text-book, and herein lies a difficulty and a delight. Because of its ever-varying aspect it has been debated whether medicine can ever form an exact science; if by that term we understand a collection of facts acquired by careful observation and framed into laws of more or less wide extent by the process of induction, then I say that medicine is an exact science even as political economy is, only that, as in the case of the latter, exact application has to be subordinated to judicious adaptation. In every case we are summoned to we have to study (1) the disease, (2) the surroundings; or perhaps I should speak more correctly if I said, (1) the surroundings, (2) the disease, for the former are far the more difficult to appreciate and to cope with. It is no exaggeration to say that for the truly successful practitioner the study of mankind and the study of disease must go hand-in-hand. On this point we may adapt the words of a learned cleric (Dr. Vaughan), and say—"This man will have to minister to all sorts and conditions of men. For God's sake let him first know them well. Let him have lived the common life, not the exotic. Let him be a man, counting nothing human alien, before he is a physician. Let him have well taken the measure of human want and human peril, of human thought and human doubting, of human suffering, too, and human sinning—not as they are to be looked down upon in visits to hovels and hospitals, not as they are to be looked up to in the high flights of thinkers and speculators, but as they are lived and moved among in the daily converse of contemporaries and equals, with (not for) whose sorrows you weep, with (not for) whose joys you rejoice." As a training ground for practice, the out-patient room is even of more value than the ward, though each has its special function. In the ward we study disease under a favourable aspect, in the out-patient department the surroundings of disease as we meet them in daily life. In the former case we cultivate exact observation of disease assisted by sanitary surroundings, good feeding, first-class nursing, and freedom from worrying care; in the latter case we have more often to fathom what are the surroundings which produce disease and obstruct our treatment. Let me here insist, most strongly, that it is not the *number* of cases we see—but the *way* in which we see them—that is the true secret of a successful training.

I well remember hearing of an instance which illustrates this point. The out-patient department of a certain hospital was under the care of a gentleman who evidently believed in the motto "*Bis dat qui cito dat.*" Entering the large hall in which the out-patients were assembled and waiting, he would first call out for all patients suffering from diarrhœa, and desire them to occupy one bench; then for all patients suffering from cough, and range them along another bench; then taking up two packs of prescriptions, one labelled "Diarrhœa" and the other "Cough," he would proceed down the lines, dealing out his papers as if he was taking a hand at whist. The chance of a patient drawing a trump was certainly poor, and the increase to the physician's stock of experience would be represented by a high decimal.

Look for a few moments at some of the cases which meet us not infrequently in our own department, and you will see at once how needful it is to study and treat each case individually. Note this girl who has just entered our room. Her age is about seventeen or eighteen; the slight flush of colour which was caused by the excitement of facing the doctor soon pales down and leaves her face a dead white; the slight exertion of walking in has made her breathless. Ah! you say, anæmia, case for iron and aloes, and so you prescribe it; but weeks go by and you have brought about but little improvement. Eight months ago this patient was a bonny, rosy-faced country girl, but she wearied of the humdrum life in her village, left home and friends, and came to London to learn dressmaking. She has changed fresh air, an active life, and healthy surroundings for a dingy lodging and twelve hours daily of sedentary work in a close stuffy room, and can you wonder under these conditions that your physic does but little good? Drop the physic and send her back to her old life, and you will not see much more of the anæmia. Here comes a woman about five-and-thirty, looking dejected, pallid, and broken—she has lost her spirits, cannot sleep, and has muscæ volitantes always floating before her eyes. You try iron and quinine with other tonics, and occasionally you allow a sleeping draught. Why so little benefit? Listen to her history. Her husband died eighteen months ago, just before her last babe was born, and since that time she has supported herself and her three children by her own exertions. Her daily meal is a pennyworth of fried fish with a little weak tea and bread, and on that starvation diet she does her work and suckles that hungry child. Insist on the baby being weaned, and that at once; give her dinner orders for the next few weeks, and if you can get her away to a con-

valescent home by all means do so: now, perhaps, your drugs may have a chance. One more quotation, though in a very different sphere of life, may help to illustrate our point. A young lady aged nineteen, wealthy and of high social position, came in January under the care of an eminent physician skilled in chest complaints. She complained of prostration, palpitation, and other phenomena, and on examination was found to have slight irregularity of the cardiac action, with a soft bruit at the apex. After three months of treatment the condition of affairs was but little changed. One morning in April the housekeeper had occasion to call and see me, and she made this interesting statement: "The doctor says her ladyship has got a slight form of heart disease, but I know a young gentleman who, if he would only come forward, could do more for her heart than all the doctor's medicines." Curiously enough, on the following week the young gentleman did come forward, and the eminent physician lost his patient. I might multiply these instances, I might refer to the idiosyncrasies of various patients, but I have said enough to show the impracticability of following routine practice, and the absolute necessity of estimating both the disease and the patient. Throughout this address my aim has been rather to indicate lines of thought than to enter upon any comprehensive exposition of the many points we have touched upon.

And now my task is ended. If I seem to have laid undue stress on this subject of Individualism, it is because I feel so strongly that just as a nation is judged by the individuals it produces, so our great profession will rise or fall in the eyes of the world according to the character and attainments of its component members. As Disraeli said that for true aristocracy of birth one must look to the Hebrew race, so I believe that for the highest aristocracy of culture and calling one must turn to the medical profession. Let no man, then, think little of the talents which have been entrusted to him, let no man fancy he can afford to leave one of them undeveloped, for in the position he will be called upon to occupy, and in the fight which he will have to wage with death, disease, ignorance, and bigotry, he will need indeed to be armed at every point. The task may at times seem hard, but life here is but the schooltime of eternity hereafter, and to the labourer who has fought the good fight and over whose existence here the great white wave of oblivion is fast sweeping, sweetly as silver bells across the silent seas of eternity will come the voice of Him who has said, and still loves to say, "Come thou good and faithful servant, enter thou into the joy of thy Lord."

A CASE OF HÆMOGLOBINURIA IN WHICH THE SYMPTOMS FOLLOWED AN ATTACK OF ACUTE NEPHRITIS.

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H. A——, a lad aged fourteen, was admitted into the North-West London Hospital on Sept. 6th, 1888. Being away from town at this date, the patient was placed under the care of my colleague, Dr. Luff, to whom I am indebted for the earlier notes of the case.

A month before admission the boy had been wet through. A few days later he was ill with headache and vomiting. He then for the first time passed blood-stained urine. No swelling of any part of the body had been noticed by the patient's mother. The urine continued dark and blood stained up to the date of admission. Previously to this illness the boy's health had been good. Never before this attack, to his knowledge, had he passed bloody or dark urine. He had not suffered from scarlet fever. There was no history of syphilis or any malarial taint. We could not learn that he had suffered unduly from cold. On admission, the lad looked weak and poorly; there was no œdema of any part of the body; the pulse was soft and compressible, and the temperature subnormal. No disease of chest. The urine was of a smoky tint, and contained one-twelfth of albumen. There was a copious deposit, dark in colour. This deposit, examined by Dr. Luff, was found to consist of a large number of granular casts, some of which contained blood-corpuscles. There were also a very considerable number of free blood-corpuscles. From Sept. 6th to Oct. 2nd, the first day on which I saw the patient, there had been but little change in his general condition, but Dr. Luff especially called my attention to the case in consequence of the persistent, though slight, hæmaturia. To a certain extent, even at this period of the illness, the hæmorrhage was intermittent, but at no time was the urine completely free from blood. Albumen out of proportion to the contained blood was invariably present. The quantity of blood varied from day to day, at no time being large. The urine was generally of a more or less smoky tint, with a dark sediment; at this period of illness it was never bright or vinous in colour. On Oct. 3rd I took some of the deposit home and carefully examined it. I found the same microscopic appearance as described by Dr. Luff. It was a deposit characteristic of nephritis. There were a large number of free blood discs and granular casts. The urine was highly albuminous, of acid reaction; sp. gr. 1012.—Oct. 9th: The urine contains more blood. The general condition of the patient remains unaltered.—23rd: For the first time since admission the urine passed this day is of bright port-wine colour. There was a copious deposit, which unfortunately, through a mistake, was thrown away before microscopical examination.—29th: On this day the urine was clearer than at any previous period of illness. Albumen present in very small quantity.—Nov. 6th: The patient had a slight rigor, the temperature running up to 103°. The urine passed subsequently was of dark vinous tint with a copious chocolate-coloured deposit. The attack came on after the boy had been to a cold, draughty watercloset. The deposit from this urine was found to contain a large number of dark granular casts. Much granular débris. A few irregular crenated corpuscles, evidently blood discs undergoing disintegration. Masses of irregular—apparently crystalline—matter of a yellow tint. A few envelope crystals, and a number of fine, long thin hyaline threads or casts. In short, the deposit resembled exactly that seen in cases of hæmoglobinuria. The urine did not clear at once, but remained clouded for ten days.—25th: The lad suffered from another attack, which commenced with high temperature, vomiting, and headache. The boy had been transferred from one ward to another, and it was thought possible he might have been chilled during removal. The urine presented the same appearance as on the last occasion, being of deep vinous colour. The deposit again resembled that found in hæmoglobinuria, and contained no blood-corpuscles.—Dec. 6th: The temperature ran up to 101°. The patient suffered from nausea and headache. The following morning the urine was of port-wine colour, with a dark sediment. — 11th: Slight rise of temperature—99°. The boy vomited and had headache. On the following day the urine was of an intense port-wine colour, with characteristic deposit. From this date the patient began to improve. On Dec. 28th the urine was recorded as being nearly normal. It contained no blood, was of straw colour, with a slight haze of albumen on adding nitric acid.—30th: Urine smoky; no appreciable sediment.—Jan. 2nd, 1889: Urine dark and smoky; no vinous tint.—4th: On this day the urine was practically normal; with nitric acid there was very slight ring of albumen.—5th: Urine port-wine colour, with a slight deposit.—8th: Urine of a vinous tint, with no deposit. It is now three weeks since deposit in any quantity has been present. The patient continued well up to Jan. 15th, on which day he was discharged from hospital. The urine still contained a slight trace of albumen.

The boy was kept under observation up to February, 1890. Since he left the hospital, now more than twelve months, he has had no return of blood-stained urine. On Oct. 8th, 1889, he was carefully examined; found strong and well, ruddy and vigorous; urine very slightly albuminous. On Jan. 10th, 1890, the lad applied again at the hospital, suffering from a mild form of the prevailing epidemic—influenza. The urine contained more albumen, but the general strength was very good.

During this illness, of about three months' duration, the patient passed through three stages: the stage of an ordinary nephritis, with characteristic urine; the stage of hæmoglobinuria, during which the urine which followed the attacks was usually of vinous colour, and contained the deposits met with in this disease; and, lastly, a stage where the urine, although frequently tinted, was without deposit. During the whole course of the illness the intermittent character of the hæmorrhage was constantly remarked.

From the first it gave the case unusual interest, and caused the patient to be closely watched.

From the numerous important observations made on cases of hæmoglobinuria, it appears almost beyond doubt that the essential pathology of the disease is a faulty state of the blood-corpuscle, a state of blood-corpuscle which renders it peculiarly liable to speedy or abnormal disintegration. Granting such essential pathology, is it equally certain that the disintegrating process invariably takes place in the systemic circulation? Before the acceptance of such a conclusion it will be well to briefly consider certain difficulties which appear to contraindicate the general circulation as being in *all cases* the scene of this peculiar corpuscular disintegration. After a severe paroxysm, the patient a subject of hæmoglobinuria will pass a large quantity (several ounces) of urine, so altered in character that as a fluid it closely resembles blood. In some cases it is only by the microscope that we are able to distinguish between this urine as being symptomatic of ordinary hæmaturia or hæmoglobinuria. As a fluid it is practically blood in solution, and it undoubtedly contains "most, if not all, the constituents of blood." (Dickinson.) Chemically it will vary with the character of the fluid holding the blood in solution. In other words, it will be found to vary with the state of the urine. In one case a specimen of characteristic urine will remain acid for months. A specimen in my own possession remained acid from March to the end of July. In another alkaline changes will take place within a few hours of its being passed. In the former class the granular semi-crystalline casts preserve their form for a very considerable time; in the latter the casts become broken up as soon as the urine becomes alkaline. This large quantity of blood-stained urine holding in solution an enormous mass of disintegrated corpuscles is usually all passed within a few hours of the initial rigor which ushers in the paroxysm.

I have the notes of a case under my care at the North-West London Hospital. The patient consented to experiment. His hand was iced for half an hour at 5.30 P.M. At 6.15 he complained of feeling very cold, and was placed in bed. At 6.30 the temperature was 104·2°. At 7 it was 105°. The patient at this hour passed a large quantity (unfortunately unmeasured) of deep, porter-coloured urine. At 8 o'clock the temperature ran up to 106·6°. Half an hour later it had fallen two degrees; at 9.30 being 101·4°. At 10 P.M. healthy, light-coloured urine was passed. At 11 the temperature was noted as being normal. A drop of blood had been taken from this patient's hand before and after the experiment. Nothing abnormal was noticed. It is, however, right to say that it was only examined with a good quarter-inch. It will be noticed that the patient passed normal urine at 5.30 and again at 10 P.M. In the interval a large quantity of dark porter-coloured fluid was voided. This fluid contained an enormous number of disintegrated blood-corpuscles. These corpuscles must have passed repeatedly through the entire circulation if the disintegrating process had occurred in the general circulation, and it would appear almost impossible for this mass of pigmented material to be passing through the circulation and yet cause no discolouration of skin or conjunctiva. In the case I am referring to no such discolouration took place. I am of course aware that in the description given of cases of hæmoglobinuria observers refer to the sallow, yellow tint of skin so often seen; but I think a distinction should be drawn between that icteric, sallow tint of integument which is so characteristic of recurrent attacks and a rapid discolouration akin to jaundice, which would probably follow the sudden liberation of large quantities of pigment in the general circulation. On the other hand, if the kidney be principally concerned in the disintegrating process, there would probably be absorption of some pigment from that organ, with consequent slight icteric tint of skin. There is again another point which at least demands careful examination. Many of the constituents of the urine passed subsequently to an attack are colloidal in character; and as colloids will scarcely pass through membranes with that rapidity which characterises the rapid discharge of the broken-down corpuscles, this rapid discharge of débris is one of the peculiar symptoms of the disease. Sir William Roberts, describing a typical seizure, writes: "The disorder is essentially intermittent or paroxysmal in its nature. Each paroxysm begins with a feeling of cold or shivering, resembling the cold fit of ague, and terminates with the discharge of a very dark bloody-looking urine. The symptoms then subside, and the urine at the next micturition or the one after is found to have resumed its healthy appearance." In those cases where through the action of a poison the corpuscles are disintegrated within the general circulation, the débris resulting from this disintegration is not passed from the kidney in a paroxysm; it is thrown off by degrees, and it may be days before complete elimination takes place. This fact was impressed upon me when watching a case of oxalic acid poisoning under my care at the West London Hospital in February, 1886. The patient, a labourer, had swallowed about half an ounce of oxalic acid dissolved in hot tea. For some few days the urine resembled that seen in hæmoglobinuria; the dark granular débris resulting from the broken-down corpuscles was not discharged in paroxysms.

This case further exemplified the fact lately insisted upon by Noel-Paton, that in cases where there is corpuscular disintegration within the circulation the amount of urea is largely increased. The urine in the above case was carefully tested for urea, and as much as 700 grains were found to be passing per day. This fact would seem to militate against the theory that in hæmoglobinuria the corpuscles are broken up in the general circulation, for if so the urea should be largely increased. In the cases under my own care the reverse has taken place: the urine of the patient in whom a paroxysm was induced by ice was examined by me, the porter-coloured fluid containing on one occasion ½ per cent., on another 7 per cent., the clear urine subsequently to the attack being 9 per cent. Dr. Dickinson, the chief authority on this disease, writing on the presence of urea in hæmoglobinuric urine, states that "with regard to the urea during the paroxysm observations conflict;" he refers to several cases, but none show any great increase, the majority being decidedly under the average. If we now turn to those cases in which the blood-corpuscles have become disintegrated through the agency of a poison the result is very different. McKendrick refers to the matter in the following words: "Finally, Noel-Paton has clearly demonstrated that the destruction of blood-corpuscles, and the consequent setting free of hæmoglobin in the blood, causes not only a great increase in the secretion of bile, but also an increase in the amount of urea eliminated by the kidneys." In the experiment referred to by McKendrick the urea after the destruction of corpuscles increased nearly 12 per cent. It certainly appears anomalous that if in cases of hæmoglobinuria the disintegration of blood-corpuscles does take place in the general circulation, the large amount of hæmoglobin thus set free should not *invariably* be accompanied by a corresponding increase in the amount of urea discharged. There does not appear to be any relation between the area of chilled surface and the amount of specific urine which is passed subsequently to an attack. A paroxysm produced artificially by applying ice to the hand will be as productive of result—i.e., will produce as large an amount of blood-stained urine—as a chill to a large surface of the body. If the corpuscles be invariably broken up in the general circulation, or in that portion of the circulation directly affected by cold, the amount of débris should surely be more or less proportional to the area of chilled surface.

Green-street, W.

ON THE ASSOCIATION OF OXALATE OF LIME CRYSTALS IN THE URINE WITH HÆMATURIA OR HÆMOGLOBINURIA.

BY ALEX. G. R. FOULERTON,
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UNDER the heading of "Hæmaturia and Garden Rhubarb" a correspondence occurred in THE LANCET of June 28th and July 5th. In this correspondence several instances were recorded in which the eating of the vegetable was followed by the passage of blood and oxalate of lime crystals in the urine. I do not think that in these cases the exact state of the urine was so recorded that one could say whether the condition present would be better described as hæmaturia or hæmoglobinuria, but for my present purpose, and because of the not infrequent association of the two conditions, this omission is not of any great consequence. It is a matter of common knowledge that in some individuals oxaluria is prone to

follow on indulgence in rhubarb and certain fruits, but the association under those circumstances of blood with this excessive excretion of oxalic acid has not, so far as I know, attracted much attention hitherto. It seems to me, however, to be an observation of considerable importance, because of its possible bearing upon the pathology of two closely allied diseases, paroxysmal hæmoglobinuria and Raynaud's disease. It was pointed out in the letters referred to that rhubarb normally contains a considerable amount of oxalate of lime; it was further suggested that the hæmaturia might be a consequence of laceration of the urinary tubules by the crystals of that salt. Disregarding for the moment the exact relation of the two concurrent phenomena—hæmaturia and oxaluria—the cases recorded may be looked upon as so many physiological experiments. Oxalate of lime is administered by the mouth to a presumably healthy subject. Oxalate of lime is excreted from the kidneys, and the urine contains either blood or some of its specific constituents. Now this association has long been recognised as a clinical fact in the history of the two diseases which I have just mentioned—paroxysmal hæmoglobinuria and Raynaud's disease. But no particular stress has up to now been laid upon the fact. Thus Roberts[1] dismisses the subject with the remark "that oxalate of lime crystals are usually seen." And in all the five cases recorded in his chapter on paroxysmal hæmoglobinuria the presence of oxalate of lime crystals in the urine was noted. Fagge[2] writing on the same disease also says that "oxalate of lime crystals have been met with, but their presence was probably accidental." The following are brief notes of two cases which have occurred in my own practice during the last year or two.

CASE 1.—Ethel S——, aged five years, attended at my out-patient room during about ten months of 1888. She had frequent attacks of hæmoglobinuria. The attacks came on at somewhat irregular intervals; during them a certain amount of uneasiness was experienced about the lumbar region, but no actual pain. The attacks lasted three or four days, were not accompanied by any other symptoms, and were not influenced by exercise. Urine, passed during an attack, was of claret colour, and contained albumen. Under the microscope a few red blood cells and an abundance of oxalate of lime crystals were to be seen. During the intervals a trace of albumen persisted, but oxalate of lime crystals were not observed, except during the attacks. The patient was sounded on several occasions, but no indication of stone was present.

CASE 2.—Fred. S——, aged thirty years, has been under treatment for only a fortnight, so that his history is of necessity incomplete. According to his statements, the following sequence of events occurs about every fortnight:—Slight pain in the hepatic region, slight jaundice, hæmatemesis, hæmaturia. He has had one attack since coming under treatment, but was not seen during it. I was able, however, to examine the urine passed at the time. It was of claret colour, neutral in reaction, contained albumen, and showed on standing a large deposit of urates. On examination under the microscope a few red blood-cells and a number of oxalate of lime crystals were seen. The patient does not give any previous history of disease, except an attack of dysentery when abroad. The attacks do not seem to be brought on by exercise, and he sometimes sweats freely during them. The sweating, however, does not seem to bear any relation to the hepatic pain, which is described as slight. In both these cases very few red blood-cells were to be seen.

Turning now to Raynaud's disease, the following cases to the same effect may be quoted. Dr. Southey,[3] relating a case of symmetrical gangrene which occurred in a boy aged nine, states: "On Jan. 9th we obtained a specimen of his urine, which was acid, specific gravity 1012, and contained both blood cells and albumen. It attracted attention by its dark colour. On the following day, and for several subsequent days, it was naturally coloured, and of specific gravity varying between 1010 and 1025. He presented a true intermittent hæmaturia, provoked apparently by impressions of external cold to the surface of the body. Thus after exposure and being washed he would pass a specimen of urine containing blood, whereas urine passed a few hours later contained a mere trace or none. ..... The blood was usually very apparent by its dark colour and the obvious sediment it gave, but its presence was at times only detectable by the guaiacum reaction, oxalate crystals either preceded or accompanied the hæmaturia usually. If there were no oxalates, blood was usually absent." So, too, in a case of Dr. Barlow's.[4] A little girl, aged five years, had well-marked attacks of Raynaud's disease. Urine passed during an attack "was acid in reaction, and gave on boiling about one-tenth of albumen, which came down in granular form, and was unaltered by the addition of nitric acid. There was a deep blue reaction with tincture of guaiacum and turpentine. The deposit showed, however, under the microscope, no blood corpuscles, but fine granular stuff and crystals of oxalate of lime." I may remark, in passing, that these two last cases placed side by side will afford some justification for a certain amount of licence which I have allowed myself in the use of the terms "hæmaturia" and "hæmoglobinuria." It is further to be noticed that these periodic discharges of oxalic acid with accompanying hæmaturia are by no means a constant symptom in Raynaud's disease. They are most frequently seen in children in whom, I believe, the disease usually appears as a distinct clinical variety when compared with the type of the disease prevailing in adults.

It would be useless to multiply the cases already given, and we may at once proceed to the comparison of the clinical facts with what I described at the commencement as the physiological experiments. The latter show that the presence of oxalic acid, or its lime salt, in the blood may cause an excessive excretion of oxalate of lime by the kidneys, together with hæmaturia. Clinical experience, on the other hand, shows that an excessive excretion of oxalate of lime in the urine is frequently associated with hæmaturia or hæmoglobinuria. It is surely a reasonable inference, then, that in Raynaud's disease, when the condition in question is present, and in paroxysmal hæmoglobinuria the presence of blood cells or blood pigment in the urine is in some way dependent upon an excess of oxalic acid in the blood. That their appearance is an incident of an oxalic acid "storm."

What may be the cause of this excessive formation of oxalic acid is a more difficult question. According to Landois[5] "the genetic relation of oxalic acid to uric acid is shown by the fact that dogs fed with uric acid excrete much oxalate of lime." In oxaluria "uric acid is also increased," and "the amount of oxalic acid is increased after the use of wine and sodic bicarbonate." This, which is practically all that is known of the matter in its physiological aspect, is closely in accordance with Beneke's general conclusion that oxaluria is a sign of retarded metabolism. The latter author also gives as one of the special causes of oxaluria a diminution of the processes of oxidation in the body—a condition which one would readily suspect of occurring during an attack of Raynaud's disease.

Again, looking upon oxaluria as a result of retarded metabolism, an excess of oxalic acid in the blood is what might well be expected in this disease. From certain well-marked signs we judge that the vaso-motor nerves are affected.[6] It is not unreasonable to suppose that an accumulation of oxalic acid in the blood and lymph is an effect of interference with the katabolic nerves which are closely associated with the former. It is to be noticed also that this oxalic acid is excreted as a lime salt; and so, in addition to any effects which might be due to the salt as it circulates in the system, we would have to consider the effect upon the general economy of the increased excretion from it of a probably valuable constituent—lime. It is no purpose of mine, however, to attempt the discussion of the general pathology of Raynaud's disease and hæmoglobinuria. The object of this communication rather is to emphasise the fact that in these diseases an association of an excessive formation of oxalic acid in the body with hæmaturia does, and not infrequently, occur. What other symptoms may be directly due to this excess of oxalic acid in the blood is a point on which no opinion will be expressed. The question as to the exact causation of the hæmaturia or hæmoglobinuria, whether it be due merely to a mechanical laceration of the renal tissues by the oxalate of lime crystals in their passage, or whether in addition there be a systemic cythæmolysis, due to the action of oxalic acid on the blood, is another matter upon which I do not propose to enter now.

[1] On Urinary and Renal Diseases, second edition, p. 140.
[2] Principles and Practice of Medicine, second edition, vol. ii., p. 584.
[3] Clin. Soc. Trans., vol. xvi., p. 167.
[4] Ibid., vol. xvi., p. 181.
[5] Landois and Stirling's Physiology, second edition, p. 401.
[6] It is worth while just to allude to the fact that in artificial diabetes we have a somewhat similar instance of a vaso-motor disorder accompanied by marked interference with normal metabolic changes.

In ending I would submit that the course of events in an attack of Raynaud's disease, so far at least as they bear upon the subject matter of these notes, is as follows: 1. A disturbance of the vaso-motor and katabolic nerves of such a nature that the normal processes of katabolism are interfered with. 2. A consequent retardation of the processes of metabolism with an accumulation of one or several intermediate waste products—amongst them uric and oxalic acids. 3. An oxalic acid "storm," characterised by a free excretion of oxalate of lime together with specific constituents of the blood, this excretion of blood-constituents being a direct effect of the action of the oxalic acid or its lime salt.

I am aware that sufficient evidence has not been brought forward to render these propositions absolutely convincing. But the fact of the association of an excessive excretion of oxalates with hæmaturia or hæmoglobinuria is beyond doubt, and the pathology of both Raynaud's disease and paroxysmal hæmoglobinuria is in such a condition that any fact which may perhaps lead to a better and more exact knowledge of the morbid processes at work is worthy of full examination.

NOTE ON THE VALUE OF A SATURATED SOLUTION OF EPSOM SALTS IN THE TREATMENT OF ACUTE DYSENTERY.

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FOR many months past I have been in the habit of using sulphate of magnesia as a remedy in the treatment of cases of acute dysentery, and have been so much impressed with the successful results which have attended its use that I feel it is only right to lay them before my professional brethren. The classical remedy for years past that has been almost universally prescribed in treating acute dysentery is, as is well known, powdered ipecacuanha, and probably in no country where this disease is met with is the prejudice in favour of this drug more deeply rooted than in India. All those army medical officers whose good fortune it was to have been enabled to attend the course of lectures on Military Medicine that were delivered by Professor J. C. Maclean at Netley must remember only too well with what eloquence he impressed upon their memories the specific properties of ipecacuanha as the remedy *par excellence* for acute dysentery, and will doubtless further remember the striking clinical cases he described to them in support of his views regarding the magical action of this drug. The majority of army surgeons meet with, and have to treat, their first cases of acute dysentery in India, and some, like myself, may have felt a considerable amount of disappointment in their early experience of the value of ipecacuanha. In India the treatment of acute dysentery by the administration of large doses of ipecacuanha is looked upon as the only certain and reliable method of treatment we have, and a well-known retired Indian medical officer and physician, possessing extensive clinical knowledge of the disease, writes thus concerning it:[1]—"Ipecacuanha in large doses may be said to fulfil many important indications. It produces all the benefits that have been ascribed to bloodletting without robbing the system of one drop of blood; all the advantages of mercurial and other purgatives without their irritating action; all the good results of antimonials and sudorifics without any of their uncertainty; all the euthanasia ascribed to opium without masking, if not aggravating, the disease whilst the mischief is silently accumulating within. Thus we possess in ipecacuanha a non-spoliative antiphlogistic, a certain cholagogue and unirritating purgative, a powerful sudorific, and a harmless sedative to the heart and the muscular fibres of the intestines." That ipecacuanha in the treatment of acute dysentery possesses many of these attributes and properties I admit, but there is another side to the picture as represented by the objections that have been urged against the administration of large doses of the drug in this disease. A little further on in the same valuable article Dr. Ewart observes: "The objections which have been urged against large doses of ipecacuanha in dysentery are—first, its 'depressing influence' kept up by nausea and vomiting; and, secondly, that it is liable to set up uncontrollable vomiting." These objections are, to my mind, very serious ones, and detract considerably from the value of the method of treatment. The depressing influence of the drug when given in large doses is probably familiar to those who have used the remedy, and in cases where its administration is followed by violent and persistent vomiting this depression may be increased to an alarming extent. Further, when the vomiting occurs, it follows closely upon the swallowing of the drug, which, being thus ejected, is prevented from exerting its valuable effects upon the diseased mucous membrane of the intestines, while the patient's vital powers are depressed by the violent vomiting and retching, without any good impression being made upon the disease itself. Acute dysentery is in itself a disease accompanied by considerable nervous depression, and any remedy that tends to in any way increase this depression is objectionable. I have known several cases in which the administration of one large dose (thirty grains) of ipecacuanha in acute dysentery has been followed by violent persistent vomiting, and such continuous irritability of the stomach as to completely prevent the retention of anything within that viscus while the dysenteric symptoms continued unabated. Influenced by such cases as these, and also by the fact that in cases where large doses of ipecacuanha are tolerated by the patient there is frequently a sense of the most trying and terrible nausea, I commenced treating cases of acute dysentery by the administration of a saturated solution of Epsom salts. My attention was first directed to the value of this drug in dysentery by my old friend Dr. J. Anderson, at present one of the physicians to the Seamen's Hospital, Greenwich. When speaking to me about it, he referred me to a short paragraph in a work upon Therapeutics[2] by an American author, who on p. 564 writes as follows: "The most efficient treatment of acute dysentery is by the administration of sulphate of magnesia. It is especially adapted to the acute stage, where there are fever, pain, tenesmus, and stools of mucus and blood. It lessens the hyperæmia and causes fæcal evacuations, with the result of relieving the pain and the distressing straining." I append a table of 95 cases, mostly of out-patients, treated during the present year in the Residency and Afzul Gang Hospitals respectively. The stools consisted in each case, with one exception, of blood and slime. Recovery ensued in all, except Cases 14 and 30, which terminated fatally.

It is administered as follows:—"Take a sufficient quantity of sulphate of magnesia to saturate seven fluid ounces of water, and to this saturated solution add one ounce of diluted sulphuric acid. The dose of this is a tablespoonful every hour or two in a wineglassful of water until it operates. Sulphate of morphia may be combined with it, or starch enemata with laudanum may be employed." I have now treated 103 cases of acute dysentery by this method with the greatest success, and particulars of ninety-five cases, concerning which notes were taken, are quoted in the table. In the earlier stages of acute dysentery this saturated solution of Epsom salts acts like a charm; fever, if present, disappears; mucus and blood are wanting in the stools, which become copious, fæculent, and bilious; the tenesmus ceases; the patient's anxiety diminishes; the skin acts well, and sleep follows the administration of the first few doses. It is especially in the acute cases that sulphate of magnesia is so valuable; the more chronic the case becomes the less apparent are the advantages of this method of treatment. So utterly opposed to the accepted method of treating acute dysentery is the use of a saturated solution of magnesia sulphate that on several occasions, when suggesting its administration to colleagues in consultation over a severe case of acute dysentery, the suggestion has been received with looks of alarm, deprecating shrugs of the shoulders, and remarks concerning the want of orthodoxy involved in such a method of treating the disease. The results furnished by this method of treatment have in most cases been so astonishing that I feel it my duty to place on record my impressions regarding it. Personally I have used it in the following manner:—A drachm of the saturated solution

[1] Article on Dysentery in Quain's Dictionary of Medicine, by Joseph wart, M.D., F.R.C.P., &c. London, 1885.

[2] A Practical Treatise on Materia Medica and Therapeutics, by Roberts Bartholow, M.A., M.D., LL.D. Fourth edition, 1882. London: H. K. Lewis.

LIST OF CASES OF ACUTE DYSENTERY TREATED WITH A SATURATED SOLUTION OF EPSOM SALTS.

Serial number.	Hospital.	Date of admission.	No. of stools passed during 24 hours when first seen.	No. of days under the treatment of Epsom salts.	Treatment pursued after the disappearance of the dysenteric symptoms.
1	Residency Hospital out-patient.	May 4, 1890	12	2	Astringent mixture with opium.
2	Ditto.	,, 6 ,,	15	2	Ditto.
3	Ditto.	,, 10 ,,	22	2	Ditto.
4	Residency Hospital in-patient.	,, 17 ,,	8	1	Ditto.
5	Ditto.	,, 17 ,,	6	1	Ditto.
6	Afzul Gung Hospital out-patient.	,, 20 ,,	12	1	Ditto.
7	Ditto.	,, 20 ,,	12	1	Opium pills.
8	Afzul Gung Hospital in-patient.	,, 22 ,,	8	3	Astringent mixture with opium.
9	Ditto.	,, 23 ,,	18	2	Ditto.
10	Afzul Gung Hospital out-patient.	,, 25 ,,	10	1	Opium pills.
11	Ditto.	,, 28 ,,	10	1	Ditto.
12	Ditto.	,, 29 ,,	25	1	Ditto.
13	Afzul Gung Hospital in-patient.	June 9 ,,	25	9	Astringent mixture with opium.
14	Ditto.*	,, 15 ,,	18	2	——
15	Ditto.†	,, 17 ,,	7	2	——
16	Afzul Gung Hospital out-patient.	,, 18 ,,	9	1	Opium pills.
17	Ditto.	,, 18 ,,	13	1	Ditto.
18	Ditto.	,, 18 ,,	10	1	Ditto.
19	Ditto.	,, 18 ,,	7	1	Confection of rose and opium.
20	Ditto.	,, 18 ,,	25	1	Opium pills.
21	Ditto.	,, 18 ,,	6	1	Ditto.
22	Ditto.	,, 18 ,,	20	1	Confection of rose and opium.
23	Ditto.	,, 18 ,,	40	1	Ditto.
24	Ditto.	,, 18 ,,	10	1	Astringent mixture with opium.
25	Ditto.	,, 18 ,,	12	1	Compound kino powder with opium.
26	Ditto.	,, 20 ,,	40	1	Ditto.
27	Ditto.	,, 20 ,,	20	1	Opium pills.
28	Ditto.	,, 21 ,,	10	1	Ditto.
29	Ditto.	,, 21 ,,	7	1	Ditto.
30	Afzul Gung Hospital in-patient.‡	,, 23 ,,	12	1	——
31	Afzul Gung Hospital out-patient.	,, 23 ,,	10	1	Opium pills.
32	Ditto.	,, 23 ,,	30	1	Ditto.
33	Ditto.	,, 25 ,,	8	1	Ditto.
34	Afzul Gung Hospital in-patient.	,, 26 ,,	90	2	Astringent mixture with opium.
35	Afzul Gung Hospital out-patient.	,, 30 ,,	8	1	Opium pills.
36	Ditto.	July 1 ,,	20	1	Ditto.
37	Ditto.	,, 1 ,,	38	1	Compound kino powder and opium.
38	Ditto.	,, 2 ,,	10	1	Ditto.
39	Ditto.	,, 3 ,,	10	1	Ditto.
40	Ditto.	,, 3 ,,	20	1	Ditto.
41	Ditto.	,, 4 ,,	10	1	Ditto.
42	Ditto.	,, 4 ,,	12	1	Astringent mixture with opium.
43	Ditto.	,, 4 ,,	30	1	Confection of rose with opium.
44	Ditto.	,, 5 ,,	12	1	Opium pills.
45	Ditto.	,, 5 ,,	40	1	Ditto.
46	Residency Hospital.§	,, 5 ,,	12	1	Astringent mixture with opium.
47	Ditto.§	,, 5 ,,	9	2	Ditto.
48	Residency Hospital out-patient.	,, 6 ,,	7	3	Ditto.
49	Ditto.§	,, 6 ,,	3	1	——
50	Ditto.	,, 6 ,,	6	1	Astringent mixture with opium.
51	Afzul Gung Hospital out-patient.	,, 7 ,,	8	2	Opium pills.
52	Ditto.	,, 7 ,,	10	1	Ditto.
53	Ditto.	,, 7 ,,	6	1	Astringent mixture with opium.
54	Ditto.	,, 7 ,,	6	1	Opium pills.
55	Ditto.	,, 8 ,,	10	2	Ditto.
56	Ditto.	,, 8 ,,	12	2	Ditto.
57	Ditto.	,, 8 ,,	6	1	Ditto.
58	Ditto.	,, 10 ,,	13	3	Ditto.
59	Ditto.	,, 10 ,,	10	2	Astringent mixture with opium.
60	Ditto.	,, 10 ,,	11	2	Opium pills.
61	Ditto.	,, 11 ,,	8	2	Ditto.
62	Ditto.	,, 11 ,,	12	2	Ditto.
63	Ditto.	,, 12 ,,	5	1	Ditto.
64	Ditto.	,, 12 ,,	5	1	Ditto.
65	Ditto.	,, 13 ,,	15	3	Ditto.
66	Ditto.	,, 14 ,,	5	2	Astringent mixture with opium.
67	Ditto.	,, 15 ,,	30	1	Ditto.
68	Ditto.	,, 15 ,,	8	2	Ditto.
69	Residency Hospital in-patient.	,, 16 ,,	12	4	Ditto.
70	Ditto.	,, 16 ,,	8	3	Ditto.
71	Afzul Gung Hospital out-patient.	,, 16 ,,	11	2	Ditto.
72	Ditto.	,, 16 ,,	6	1	Opium pills.
73	Ditto.	,, 16 ,,	8	1	Ditto.
74	Ditto	,, 16 ,,	8	1	Ditto.
75	Residency Hospital out-patient.	,, 17 ,,	8	3	Astringent mixture with opium.
76	Ditto.	,, 17 ,,	8	2	Ditto.
77	Afzul Gung Hospital out-patient.	,, 17 ,,	10	1	Opium pills.
78	Ditto.	,, 18 ,,	6	1	Astringent mixture with opium.
79	Ditto.	,, 18 ,,	15	2	Opium pills.
80	Ditto.	,, 18 ,,	16	3	Ditto.
81	Ditto.	,, 19 ,,	8	2	Ditto.
82	Ditto.	,, 19 ,,	10	1	Ditto.
83	Ditto.	,, 19 ,,	16	1	Ditto.
84	Ditto.	,, 20 ,,	8	1	Ditto.
85	Ditto.	,, 20 ,,	5	1	Astringent mixture with opium.
86	Ditto.	,, 20 ,,	10	1	Opium pills.
87	Ditto.	,, 21 ,,	8	3	Ditto.
88	Ditto.	,, 21 ,,	5	5	Ditto.
89	Ditto.	,, 22 ,,	20	1	Ditto.
90	Ditto.	,, 22 ,,	6	1	Astringent mixture with opium.
91	Residency Hospital out-patient.	,, 22 ,,	13	2	Ditto.
92	Residency Hospital.§	,, 22 ,,	15	2	Ditto.
93	Ditto.§	,, 22 ,,	11	2	Ditto.
94	Residency Hospital out-patient.	,, 22 ,,	15	3	Ditto.
95	Ditto.	,, 23 ,,	7	2	Ditto.

* This man was much emaciated and greatly debilitated on admission.
† This case was moribund when admitted.
‡ This man was a beggar, was found lying in the streets, and was in a moribund condition when admitted into hospital.
§ Private case of the Apothecary of the Residency Hospital.
‖ Two doses cured a child aged ten months.

with ten drops of dilute sulphuric acid have been given every hour or two until the stools have become copious, fæculent, and free from blood and mucus, the temperature has fallen, and the pain and tenesmus have ceased. When the stools have become normal in colour and appearance, and the patient only passes two or three in the twenty-four hours, an ordinary astringent mixture of acid with laudanum or tincture of Indian hemp, or a pill containing extract of opium, is usually all that is necessary to complete the cure. It is, of course, imperative to diet the cases with great care. It is especially with reference to this method of treating acute dysentery as an alternative to the treatment of the disease by large doses of ipecacuanha that I am of opinion the value of a saturated solution of Epsom salts will in the future be found paramount. Its advantages over ipecacuanha may be summed up as follows: 1. It has no depressant action on the system. 2. It neither produces nausea nor vomiting. 3. It quiets and soothes the patient. 4. Its physiological action on the mucous membrane of the intestines in relieving hyperæmia is sound, and by this means it probably prevents the formation of ulcers within the gut, places those which may have already formed into a condition most favourable for their healing, preventing the acute inflammatory process and engorgement of the mucous membrane leading to the death of more tissue, and thus bringing about a cure. This part of India (the Deccan) may perhaps be correctly termed the home of dysentery, and typical severe cases of the acute variety of the disease are only too commonly met with. The annexed table of ninety-five cases will serve to show the valuable properties of Epsom salts in acute dysentery. These tabulated results of this method of treatment are the more valuable when it is known that the cases were in no way selected ones; that they nearly all occurred among the poorer class of patients who seek relief at the hospital, and that the vitality of many of them was at an exceedingly low ebb when they came under treatment. Out of the total of ninety-five three died. Two out of the three cases were at the time of their admission into hospital in a moribund condition. The resisting power of the poorer class of natives against such a disease as acute dysentery is much below that possessed by Europeans of the same class, and they succumb much more easily to its effects. In twenty-seven cases of acute dysentery among Europeans that I have treated with a saturated solution of Epsom salts all have been successfully cured, and at some other time I intend to publish a short account of their cases. If this note is the means of directing the attention of other medical officers whose opportunities of meeting with cases of acute dysentery are greater than mine to this method of treatment I shall feel satisfied. If they will give the remedy a trial in acute cases, instead of using large doses of ipecacuanha, I have not the slightest doubt as to what their verdict will be. But, as was stated before, it is peculiarly in acute dysentery that the saturated solution of sulphate of magnesia will yield such excellent results. The more chronic the case the less likely is the remedy to prove of value.

Hyderabad.

OZÆNA AND SOME OTHER FORMS OF RHINITIS.

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Pathology.—After taking into consideration the descriptions of authors, and especially Krause's description of the microscopic sections of the mucous membrane made by him, and studying the clinical progress of cases under my own observation, I have come to regard the true atrophic rhinitis as a form of lupus, perhaps the lupus erythematodes of the English, modified and altered in its characters by the locality and tissues in which it has happened to commence. We have, as Krause has pointed out, disease of the glands, infiltration cells undergoing disintegration and fatty degeneration, and atrophic wasting of the tissues without ulceration. In all these particulars there seems to me a strong resemblance to the lupus of the skin without ulceration, as seen in lupus erythematodes. The effects, if any, of treatment, the obstinacy and chronicity of the malady, and the frequently phthisical family history, all suggest the probability of an alliance between ozæna proper and lupus.

Ozænic odour.—Whatever may be the cause of the initial morbid lesion, the peculiar stench is due (according to Dr. Rohrer of Zurich) to the presence of "putrid forms of bacilli" found in the secretions of fetid rhinitis, as also in those of fetid otorrhœa. In 14 cases of fetid rhinitis (out of a total of 24 cases of rhinitis, fetid and non-fetid) specimens examined yielded 56 times bacteria, 30 times cocci, and 26 bacilli. The cocci were found 6 times in pus and 24 in cultivations; the bacilli 5 times in pus, and 21 in cultivations. In the 10 non-fetid cases bacteria were demonstrated 19 times, cocci 8, and bacilli 11. They were found only in cultivations. Staphylococci were most often met with in the non-fetid cases; while monococci, diplococci, and bacilli of various forms were found in the fetid cases. Many kinds of odours were perceptible during the cultivations. In ozæna secondary putrid, carrion-like odours were noticed, and not unfrequently an aromatic odour like acetone or malic acid; sometimes odours reminding one of rotten lily petals and putrefying cheese.[1] There is also a possibility of the odour being in some measure due to the butyric acid fermentation as suggested by Virchow. Whether the zoogloea bacilli and bacillus megaterium and forms of clostridia have any causal connexion with the special odour requires confirmation.

Diagnosis.—The treatment and diagnosis of ozæna are mutually interdependent. Treatment in the form of douches and sprays must, as a rule, precede the diagnosis; and in the application of this preliminary treatment thoroughness and efficiency are essential factors. Take the case of a patient of, say, twelve years of age, who has had for months or years a chronic obstructive rhinitis of both nostrils, with fetor, occasionally very pronounced, but with intervals of comparative freedom from the stench. No view of the interior of the nostrils can be obtained without a thorough cleansing with the douche. We may then inspect the parts. A wide atrophic state of the nasal fossæ may be revealed, and the fetor may remain unaffected, or only transiently relieved. There are no ulcerations, and on passing the probe no carious or necrosed bone or cartilage and no foreign body can be discovered. There is then little doubt that we have here a case of true ozæna. But in another case there may be no decided atrophy of the membrane, no wasting of the turbinated bones (there may even be hypertrophy of the inferior turbinated on one or other side); no diseased bone, no ulceration, and no foreign body can be detected, and yet after the use of the douche the fetor rapidly returns, and offensive discharges and crusts continue to form as before. This case is probably one of commencing ozæna; the stage of the disease is so early, and the process so limited in extent, that there is nothing characteristic in the appearances of the mucous membrane. In such a case treatment would probably be successful in arresting the progress of the disease, and a hopeful prognosis might be given; while in the former case I should be inclined to regard the symptoms as only doubtfully curable, though certainly capable of palliation. In a third case, after free douching, simple congestion, with perhaps hypertrophy, may be demonstrated, and the fetor remains subdued for days or weeks. Here there can be no question of true ozæna. In a fourth instance diseased bone or a foreign body may be discovered, and the diagnosis is then much facilitated. In all doubtful cases, however, much help may be afforded by the consideration of collateral evidence, such as the family history, the existence or absence of similar affections in other members of the family, and the unsuccessful results or otherwise of previous treatment. There are two forms of rhinitis with fetor which must be distinguished carefully from true ozæna—viz., (1) chronic rhinitis, with caries or necrosis; and (2) rhinitis caseosa of Cozzoline. To the former the term "ozæna" is applied by many authors, and especially by Rouge of Lausanne, who has met with a number of such cases, and treated them by a specially devised operation of his own. Apart from the fact that in these cases there will be no true atrophy of the mucous membrane, the history will lead to the suspicion of caries or necrosis, possibly a syphilitic taint or an injury of some kind being brought to light on inquiry. The existence of a piece of loose or carious bone, however, can only

[1] The Morphology of the Bacteria found in the Ear and Nasopharynx, by Dr. Rohrer of Zurich.

be proved by probing, and in order to do this effectually (unless the sequestrum is near the orifice) an anæsthetic will be necessary. The rhinitis caseosa will only resemble ozæna in the intolerable odour which accompanies it, for the secretion is entirely different from that of true ozæna (*vide infra*).

Terms employed.—In the fact that there may be cases of ozæna in which the atrophic condition is so slight as to be unrecognisable by the usual methods of investigation, we have a good reason for rejecting the term "atrophic rhinitis," and adopting Gottstein's more general term of "chronic fetid rhinitis." The term employed by Trousseau, "constitutional" or "idiopathic ozæna," is not so good. It seems to imply a theory, not quite warranted by facts, that the local condition is only secondary to some general cachexia. The results of post-mortem examinations, as recorded by Krause, do indeed give some colour to this view; but the opportunities of post-mortem inspection have been too few to found any reliable conclusions upon, and meanwhile clinical experience rather points to the nostrils as the starting-point of the disease. The term "accidental ozæna" is sometimes applied to the temporary fetor observed in some persons affected with ordinary catarrh.

Treatment.—In these cases the treatment should commence with the nasal douche. The crusts always accumulate in the night, and we therefore employ the douche in the early morning. The temperature of the water used for dissolving the saline or other ingredients of the douche should be from 92° to 98° F., and should be tested by the patient's hand before using it. The sulpho-carbolate of soda (two drachms to the pint), and an equal weight of bicarbonate of soda or common salt, with from two to ten grains of carbolic acid, is a very good form of douche. As much as two or three pints of this solution are required in many cases, the quantity being regulated by the patient's sense of relief and the feeling that the crusts have been removed. The syphon douche-tube may be used in those cases in which the crusts are easily detached and small in size, while for more severe cases a Higginson's syringe fitted with a nasal nozzle is preferable. While using the douche the patient should breathe *only* through the mouth, which should be kept wide open. The pharynx is thus shut off from the naso-pharynx, and the stream passes round the septum and out through the opposite nostril. The nozzle should be passed alternately into the right and left nostrils, and thus a reversed current is produced and the effect is greater. The crusts often cling obstinately to the naso-pharynx, and when this is the case it is well to use the post-nasal syringe as well as the douche. In some cases a post-nasal throat brush will be required before the viscid adherent crusts can be detached. Many other antiseptic solutions besides the one mentioned above have been used with good effect, and it is desirable to change the form of antiseptic from time to time, some cases requiring stronger and some weaker forms of douche solution. Permanganate of potash is often used, and is a good deodorant; but it has the disadvantage of staining the upper lip and the margins of the alæ, and it leaves indelible stains on the handkerchiefs and any other linen with which it comes in contact. Pain is sometimes complained of during the employment of the douche. This may be due to the solution having too low a temperature, or to its being too concentrated or too irritating in quality. Pain may also be caused by a prolonged use of the douche, the membrane becoming more sensitive as it becomes more healthy and less coated by secretions. As soon as there are indications that the secretions are becoming more healthy, less viscid, and less copious, the douche should be discontinued or used at longer intervals. There is good reason for believing that the olfactory region has sometimes been injured and its function impaired by the too energetic use of the douche, and cases have been adduced which seem to show that injury of the ear has been occasioned by the same cause. It must, however, be borne in mind that chronic rhinitis is almost always associated with defects of smell and often with impaired hearing. Some practitioners altogether discard watery solutions for cleansing the nostrils. Dr. McClellan of Chicago is one of these. He uses hot vaseline as a spray by means of Rumbold's apparatus, and asserts that it is useful in all the various forms of rhinitis, that it "produces no local irritation," and is "much more powerful (than the water douche) in effecting good results." This remedy can be used effectually by the surgeon alone, whereas the douche is easily applied by the patient, and at more convenient times than would be possible for the use of Rumbold's spray. Side by side with the above-mentioned remedies the course of chronic fetid rhinitis may be influenced by the application of sprays of an antiseptic character. The douche alone is not sufficient to overcome the fetor, and it is necessary for the comfort of the patient and those around him that it should be persistently combated by sprays containing various antiseptic remedies. Iodoform may be used in an ointment in the proportion of two grains to the drachm of vaseline. The odour of this drug, however, is very offensive to some people, and the ointment should be used only at night. During the day a spray containing iodine and carbolic acid in solution is most convenient, and whenever the stench is severe a chlorine solution freshly made gives very good results. In one of the worst cases that I have seen nothing overcame the fetor so well as sulphurous acid (the Pharmacopœia solution) 1 part to 20 of water, the same solution being applied by means of a throat brush to the naso-pharynx. The patient should live much in the open air, take regular exercise, and be suitably clothed, as free action of the skin and warmth of the surface seem to influence the course of the disease in a favourable direction. A dry climate is also desirable.

Is chronic fetid rhinitis curable?—I have already expressed the opinion that in a few cases, taken in the early stage, and before the characteristic atrophy has extended beyond a very limited area, a cure may be effected. Dr. J. E. Moure asserts that he has completely cured even advanced cases, using as a douche carbolic acid, glycerine, and alcohol in water, and alternating this with a douche containing chloral, resorcine, salicylic acid, or salicylate of soda, but whenever the stench returns again resorting to the carbolic acid douche. This method being continued for months or years has been successful when supplemented by the application of strong solutions of nitrate of silver (1 to 15) and the galvanic cautery.[2] This statement is very encouraging, and applies more particularly to cases of persons between twelve and sixteen years of age. I have not been so successful, but from the improvement seen in a few cases I believe that cures may be effected under certain favourable circumstances. One remarkable case of accidental cure is reported by Virchow. A syringe soiled by gonorrhœal secretion was by accident applied to the nasal mucous membrane of a girl aged six years affected with obstinate ozæna. Violent catarrh followed. This was cured in three weeks by the application of a 3 per cent. solution of nitrate of silver. The ozæna entirely disappeared. In another case reported in the same journal (Hirsch's *Jahresbericht*) ozæna of thirteen years' standing was cured by applying nitrate of silver, and afterwards concentrated solution of chlorate of potash with the aid of nasal douches. Three other cases are reported in the same journal, one completely, and the other two nearly cured by applying solution of nitrate of silver (1 to 1), and afterwards tincture of iodine and solution of thymol. These are heroic remedies, and on *a priori* grounds it is difficult to understand their therapeutic value, but at the same time they give some ray of encouragement, and prevent us from abandoning cases which are, as a rule, regarded as only to be relieved or palliated.

Rhinitis with caries or necrosis.—These cases are often called cases of ozæna, but are due to a different condition of the mucous membrane, and require treatment of a different kind from those of chronic fetid rhinitis. Dr. Rouge of Lausanne and others have made no distinction between the the two classes of ozæna. It has been assumed by these authors that in all cases of obstinate fetor, or in nearly all, a piece of diseased bone is the sole cause of the offensive secretions. If the bone is detected by the probe (and even without this direct evidence), an operation is performed for the laying open of the nasal fossæ and the bone searched for and removed. But the results are sometimes disappointing, and in one recorded instance fatal meningitis was the result. Very few cases of actual necrosis require any but the simplest form of operation. It is not necessary to lay open the nasal fossæ; the sequestrum, if distinctly felt, can be removed, either whole or piecemeal, through the natural passages, and the cases of caries are better dealt with by constitutional treatment and local antiseptics. As an instance of the failure of Rouge's operation the following case is in-

[2] See Dr. J. E. Moure's Manuel Pratique des Maladies des Fosses Nasales.

structive and worth recording. A girl aged seventeen years was under my care at the Great Northern Hospital with very obstinate ozæna. The results of treatment were so far unsatisfactory that the patient went to another hospital and placed herself under the care of a distinguished surgeon, who performed Rouge's operation for her. She afterwards again presented herself at the Great Northern, and considered herself cured. There was, however, distinct evidence of the ozæna stench in her breath. I afterwards met the surgeon who operated on her, and he very frankly acknowledged that though he had expected to reach some carious or necrosed bone none had been found, and that he had been disappointed in the results of the operation. He also expressed his opinion that it was not so easy a proceeding as he had anticipated, and that there had been rather embarrassing hæmorrhage.

A passing allusion to Cozzolino's *rhinitis caséuse, ou cholestéomateuse*, is here appropriate. This rare affection was described by Professor V. Cozzolino at the International Congress of Otology and Laryngology, at Paris, September, 1889. He has seen three cases, the first having been described in 1884. The etiology is not very clear, but the disease may be regarded as a desquamative rhinitis peculiar to the scrofulous, set up by parasites passing through the nasal cavities, the morbid condition of the mucous membrane in scrofulous patients affording a favourable soil for the growth of bacteria. The principal symptoms are: (1) occlusion of the nasal fossæ, (2) an intolerable fetor, (3) a trickling from time to time from the nostrils and choanæ of almost gelatinous masses, which become detached from the principal mass. These masses, when they escape into the pharynx in considerable volume, sometimes give rise to a sense of suffocation, followed by relief when they have been expectorated. In the second stage, the gradual increase in the bulk of the accumulated morbid secretions causes an expansion of the bony walls of the nasal fossæ, with caries of the bones and cartilages and distortion of the face, attended with considerable pain. To make sure of the diagnosis, the rhinoscope is used, and then a formless, soft, greyish-yellow mass is seen occupying both the anterior and posterior apertures of the nostrils. The odour is more fetid than that of ozæna, but does not spread to so great a distance. When the probe is used the morbid mass is found to be easily detached, and the probe passes freely through it in all directions. The nasal mucous membrane is found to be of a dull-red colour, slightly congested, and with the epithelium detached from a large part of its surface, but without ulceration. In the second stage there may be myxomatous growths and lesions of the bones and cartilages. Cozzolino found in the secretions a large quantity of cocci, of spores, and rectilinear bacteria, resembling somewhat the bacillus of tuberculosis, and also a large number of white corpuscles, and a mass of fat cells and crystals of stearine. The treatment in the first stage consists of simple removal of the secretions by antiseptic douching and scooping out the débris, while in the later stages operations may be required for the removal of diseased or necrosed bone or cartilage.

I have seen two cases which I now recognise as belonging to the class here described, both, however, in the later stage. In one the escape of the gelatinous masses into the throat almost caused suffocation of the patient. He had a sinus through the cheek leading into the antrum, I was able to relieve him by treatment such as that indicated above. (This case is alluded to in my work on "Diseases of the Nose.") In the second case the affection was complicated with gelatinous polypi, but without any disease of bone. This patient was completely cured after the removal of the polypi and persistent use of antiseptic douches, carried out for several months. In both cases the odour was almost intolerable and quite peculiar.

Henrietta-street, W.

SOCIETY FOR THE STUDY OF INEBRIETY.—The quarterly meeting of the Society will be held in the rooms of the Medical Society of London, Chandos-street, Cavendish-square, on the 7th inst., at four o'clock, the President, Dr. Norman Kerr, in the chair. The following papers will be read:—"Hereditary Inebriety": Mrs. L'Oste, Gipsy-hill. "The Influence of Pure Alcohol on the Organism, especially on the Peripheral Nervous System": Dr. P. F. Spaink, Baarn, Holland. "Drunkenness, a consideration of its Psychology and Responsibility": Dr. T. L. Wright, Bellefontaine, Ohio.

LITHOLAPAXY IN MALE CHILDREN AND BOYS.

BY SURGEON-MAJOR D. F. KEEGAN, M.D. DUB.,
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IN the pages of THE LANCET (Dec. 1886) I recorded fifty-eight litholapaxies performed on male children and boys between the end of Dec. 1881, and the end of March, 1886, at the Indore Charitable Hospital, Central India. Between April, 1886, and April, 1890, there have been performed at that hospital 102 additional litholapaxies in male children and boys, making a total of 160 operations. The mortality which followed this total was seven, or a death-rate of 4·37 per cent. Four, if not five, of these deaths were the result of extensive organic disease of the kidneys, and in only one out of the seven was the fatal issue directly connected with the operation. When I left India last May I had myself performed 125 litholapaxies in male children and boys below fifteen years of age with four deaths, or with a rate of mortality of 3·2 per cent. I have grouped in the accompanying table the main features of interest connected with each of these 125 operations, and a study of it will show that three out of the four deaths were caused by extensive organic disease of the kidneys. I feel perfectly convinced in my own mind that the fourth death was also caused by organic kidney disease, but as I was unable to obtain a post-mortem examination in this particular case, I cannot therefore prove my statement. The table speaks for itself, and, in the face of the information compiled therein, it is perfectly futile for those who have had no practical experience of litholapaxy in male children and boys to maintain that this operation is only applicable to the treatment of calculi of small or medium size. I would direct especial attention to the short stay in hospital after operation, and can assure my readers that not a few of my patients were detained in hospital in many instances merely as a precautionary measure, or for purposes of observation. Compared with the length of time usually spent in hospital by boys who undergo a lateral lithotomy or a supra-pubic cystotomy for the relief of stone, litholapaxy has much to recommend it, and as it is free from the dangers inherent in all cutting operations, it possesses an additional claim to more general adoption by surgeons who are constantly meeting with cases of stone in the bladder in young male children. In the pages of THE LANCET, and more especially in the *Indian Medical Gazette*, I have on many occasions stated my opinion as to the position which litholapaxy should hold as a surgical procedure for removing calculi occurring in male children and boys. After much experience of litholapaxy, I have no hesitation in stating that it is the best surgical operation for the great majority of the calculi the surgeon meets with in male children and boys, once he has rendered himself thoroughly familiar with the use of the lithotrite. Should he aspire to performing this operation widely and successfully in male children and boys, he must provide himself with a large assortment of fully fenestrated lithotrites of small size, made from the best steel which money can purchase by thoroughly reliable workmen. His set of lithotrites—all fully fenestrated—should range from Nos. 4 or 5 at the bend of the blades to No. 10 at the bend of the blades (English scale), and his evacuating catheters or cannulæ should all be fitted with serviceable stylets. It will, however, occasionally happen that owing to a very narrow urethra, or to the great size or hardness of a stone, or because it is encysted in the bladder, litholapaxy cannot be performed. In such cases the surgeon has a choice of three operations—viz., median lithotomy, lateral lithotomy, and supra-pubic cystotomy, and he will be guided in the selection of one of the three by a consideration of the peculiarities or difficulties of each case submitted to his care. Surgical experience, or the lack of it, and perhaps a bias towards a particular operation, will influence his decision. If he has had much successful experience of lateral lithotomy in boys, he will only adopt supra-pubic cystotomy in cases where the stone is very large, and if he has had very little experience in the surgery of stone, he will very likely, in the present day, prefer to do a supra-pubic cystotomy whether the stone be large or small, as being in his opinion the easiest of accom-

TABLE

SHOWING PARTICULARS OF 125 LITHOLAPAXIES, PERFORMED ON MALE CHILDREN AND BOYS BY D. F. KEEGAN AT THE INDORE HOSPITAL, CENTRAL INDIA, BETWEEN DECEMBER, 1881, AND APRIL, 1890.

Serial number.	Age.	Caste.	Date of operation.	Time occupied by operation (in minutes).	No. of lithotrite used.	No. of catheter used.	No. of times lithotrite was introduced.	No. of sittings.	Composition of stone.	Duration of disease (in months).	Weight of stone (in grains).	No. of days in hosp. after operation.	Result.
1	5	H.	Dec. 15, 1881	No rec.	10	9	No rec.	1	No record.	5	No rec.	25	S.*
2	8	H.	April 21, 1882	,,	10	9	,,	1	Ditto.	15	,,	14	,,
3	7	M.	Oct. 11 ,,	,,	10	9	,,	1	Ditto.	No rec.	30	9	,,
4	8	H.	Feb. 7, 1883	45	10	9	,,	1	Phosphatic.	,,	15	2	,,
5	2½	H.	March 16 ,,	No rec.	7	9	,,	1	No record.	,,	10	3	,,
6	5	M.	June 28 ,,	25	10	9	No rec.	1	Uric acid.	,,	17	12	,,
7	4	H.	Sept. 26 ,,	30	10	9	,,	1	Ditto.	,,	55	3	,,
8	7	H.	,, 27 ,,	No rec.	10	9	,,	1	Ditto.	,,	5	3	,,
9	8	H.	Oct. 9 ,,	20	10	9	,,	1	Ditto.	,,	16	10	,,
10	5	H.	,, 9 ,,	70	10	9	,,	1	Ditto.	,,	84	9	,,
11	3	H.	Jan. 26, 1884	38	10	9	,,	1	Ditto.	12	104	7	,,
12	5	H.	Feb. 16 ,,	30	10	9	,,	1	Urate of ammonia and uric acid.	6	51	12	,,
13	12	H.	March 3 ,,	55	10	9	,,	1	Earthy and triple phosphates.	24	240	11	,,
14	2	H.	,, 10 ,,	4	7	9	,,	1	Uric acid.	4 days	7	2	,,
15	1½	H.	,, 27 ,,	32	7	7	,,	1	Ditto.	4	18	4	,,
16	7	M.	May 12 ,,	60	10	9 & 12	5	1	Phosphates.	24	160	15	,,
17	3½	H.	,, 26 ,,	67	7 & 10	9	5	1	Phosphatic.	12	75	8	,,
18	2½	H.	,, 29 ,,	70	7	7	5	1	Uric acid.	24	24	3	,,
19	6	M.	July 3 ,,	60	10	9 & 11	6	1	Uric acid and oxalate of lime covering.	48	210	8	,,
20	4	H.	Aug. 22 ,,	56	8	7 & 9	4	1	Uric acid.	10	38	13	,,
21	11	H.	Nov. 20 ,,	112	8	12	7	1	Oxalate of lime and urates.	12	308	14	,,
22	2	M.	Dec. 10 ,,	20	7	7	3	1	Lithic acid.	12 days	5	10	,,
23	8	H.	Jan. 30, 1885	104	8	9	9	1	Phosphatic.	60	285	5	,,
24	10	H.	,, 30 ,,	85	8	9	7	1	Phosphates and uric acid.	24	170	6	,,
25	9	H.	March 19 ,,	78	8	7 & 9	6	1	Uric acid.	12	90	5	,,
26	10	H.	,, 27 ,,	10	8	9	1	1	Oxalate of lime and urates.	24	43	2	,,
27	5	H.	April 5 ,,	58	8	9	6	1	Phosphate of lime.	6	140	4	,,
28	7	H.	,, 11 ,,	31	8	9	3	1	Mulberry with slight covering of phosphates.	48	57	4	,,
29	11	H.	,, 13 ,,	67	8 & 10	12	6	1	Mulberry.	48	236	9	,,
30	10	H.	,, 28 ,,	90	8	9	6	1	Oxalate of lime and urates.	24	200	5	,,
31	7	H.	,, 30 ,,	43	8	9	4	1	Ditto.	36	140	3	,,
32	10	H.	May 2 ,,	80	7 & 8	7 & 9	8	1	Phosphatic and uric.	4	91	11	,,
33	4	H.	,, 7 ,,	41	7 & 8	7	4	1	Mulberry with phosphatic covering.	9	27	3	,,
34	10	H.	,, 27 ,,	94	8	9	6	1	Urates and phosphates.	72	360	8	,,
35	2½	H.	June 9 ,,	17	7	7	4	1	Uric acid.	3	11	4	,,
36	2½	M.	July 9 ,,	31	8	7	5	1	Ditto.	2½	32	3	,,
37	8	H.	Aug. 1 ,,	57	8	7 & 9	5	1	Oxalate of lime and urates.	No rec.	28	4	,,
38	2½	M.	Nov. 11 ,,	30	7	7	4	1	Uric acid with slight phosphatic covering.	3	16	4	,,
39	6	H.	,, 17 ,,	12	8	8	2	1	Mulberry and uric acid with slight phosphates.	6	23	3	,,
40	4½	H.	Dec. 16 ,,	45	8	8 & 10	4	1	Uric acid.	10	118	5	,,
41	3½	H.	Feb. 6, 1886	37	8	8 & 9	4	1	Ditto.	12	70	8	,,
42	14	H.	,, 12 ,,	60	8 & 11	9 & 10	6	1	Fawn-coloured uric acid.	24	248	11	,,
43	3½	H.	,, 23 ,,	10	8	7	2	1	Oxalate of lime and urates.	18	19	4	,,
44	14	H.	,, 27 ,,	10	8	9	1	1	Phosphates.	4	19	2	,,
45	6	H.	,, 28 ,,	56	8	8 & 9	5	1	Uric acid and oxalate of lime nucleus.	6	105	9	,,
46	6½	H.	March 25 ,,	39	7	7	6	1	Uric acid and phosphates.	8 days	14	5	,,
47	9	H.	April 4, 1887	16	7	8 & 10	2	1	Triple phosphates.	60	8	6	,,
48	6	H.	May 27 ,,	33	7	7	5	1	Uric acid and phosphates.	24	54	14	,,
49†	3	H.	June 3 ,,	75	7	7 & 8	6	1	Uric acid.	6	70	6	Died.
50	3½	H.	,, 18 ,,	10	7	8	1	1	Uric acid and phosphates.	15	50	2	S.
51	4	M.	July 15 ,,	21	7	7	2	1	Oxalate of lime and phosphates.	6	25	3	,,
52	7½	H.	,, 26 ,,	10	7	7 & 8	3	1	Uric acid	10 days	2	2	,,
53	11	H.	Aug. 10 ,,	20	7 & 9·5	10	3	1	Oxalate of lime and urates.	72	32	3	,,
54	5	H.	,, 14 ,,	52	7	8	6	1	Ditto.	24	78	4	,,
55	4	H.	,, 22 ,,	27	6	8	2	1	Nucleus oxalate of lime with thick covering of phosphates.	5	26	2	,,
56	8	H.	Sept. 8 ,,	45	9·5 & 7	10	4	1	Oxalate of lime and urates.	18	185	4	,,
57	6	H.	Oct. 19 ,,	34	7·5	8	4	1	Mixed uric acid and oxalate of lime.	24	85	3	,,
58	9½	M.	Nov. 1 ,,	55	9·5, 7·5, & 6	8 & 9	4	1	Oxalate of lime with a very thin covering of phosphates.	6	168	3	,,
59	10	H.	,, 28 ,,	47	7 & 6	10	5	1	Phosphatic with a very small nucleus of oxalate of lime.	1	275	3	,,
60	10	H.	,, 29 ,,	9	6	8	2	1	Oxalate of lime and urates.	72	10	3	,,
61	9	H.	,, 29 ,,	66	7·5 & 6	8 & 7	5	1	Oxalate of lime and uric acid mixed with some phosphates.	72	535	3	,,
62	2½	H.	Dec. 18 ,,	25	6	6	3	1	Mixed lithic acid and urate of ammonia.	9	10	4	,,
63	8	H.	,, 22 ,,	4	6	7	1	1	Oxalate of lime and urates.	2	4	3	,,
64	3½	M.	Feb. 14, 1888	14	6	7	2	1	Ditto.	12	30	3	,,
65	5	H.	,, 25 ,,	38	6, 7, & 7·5	7 & 8	5	1	Principally oxalate of lime with a very small quantity of phosphate of lime.	14	130	3	,,
66	6	H.	March 14 ,,	8	6	8	1	1	Urate of ammonia and phosphates.	24	20	2	,,
67	3½	M.	,, 16 ,,	14	6	6	3	1	Uric acid, principally with some admixture of oxalate of lime.	4	33	4	,,
68	3	M.	April 14 ,,	19	6	8	2	1	Uric acid.	24	49	2	,,
69	3	H.	,, 23 ,,	9	6	7	2	1	Ditto.	1½	5	2	,,
70	10	H.	,, 28 ,,	86	6	6 & 7	7	1	Phosphatic with nucleus of oxalate of lime.	12	122	6	,,
71	8	H.	,, 29 ,,	40	6	7	4	1	Phosphatic.	18	72	2	,,
72	9	H.	,, 30 ,,	50	7 & 6	8	5	1	Oxalate of lime and urates.	24	186	3	,,

* Successful.

† No post-mortem examination obtainable in this case: boy died with symptoms of organic disease of kidneys; case fully detailed at page 225, Indian Medical Gazette, August, 1888.

TABLE SHOWING PARTICULARS OF 125 LITHOLAPAXIES, PERFORMED ON MALE CHILDREN AND BOYS BY D. F. KEEGAN AT THE INDORE HOSPITAL, CENTRAL INDIA, BETWEEN DECEMBER, 1881, AND APRIL, 1890—*continued*.

Serial number.	Age.	Caste.	Date of operation.	Time occupied by operation (in minutes).	No. of lithotrite used.	No. of catheter used.	No. of times lithotrite was introduced.	No. of sittings.	Composition of stone.	Duration of disease (in months).	Weight of stone (in grains).	No. of days in hosp. after operation.	Result.
73	13	H.	May 20, 1888	100	10·5 & 7·5	10	7	1	Uric acid with colouring matter, 48·48; oxalate of lime, 51·52.	Unknown	606	8	S.*
74	3½	H.	June 3 ,,	29	6	6, 7, & 8	3	1	Uric acid and oxalate of lime.	9	90	5	,,
75	4	H.	,, 10 ,,	33	6	6 & 7	4	1	Principally phosphatic.	24	78	4	,,
76	6	H.	,, 13 ,,	6	6	6 & 7	2	1	Oxalate of lime and urates.	Unknown	3	1	,,
77	11	M.	,, 15 ,,	14	6	10 & 8	2	1	Ditto.	12	28	5	,,
78	5½	H.	,, 16 ,,	24	6	7 & 6	4	1	Uric acid.	12	30	3	,,
79	8	H.	,, 19 ,,	35	6	7 & 8	4	1	Mixed uric acid and oxalate of lime, with covering of phosphates.	12	87	2	,,
80	4	M.	July 24 ,,	8	6	8 & 6	1	1	Oxalate of lime and urates.	24	12	2	,,
81	3	H.	,, 31 ,,	6	6	7	1	1	Uric acid.	12	2	1	,,
82	5½	M.	Aug. 23 ,,	15	6	8	1	1	Oxalate of lime chiefly and urates.	36	30	4	,,
83	7½	M.	,, 27 ,,	10	6	8	1	1	Oxalate of lime and urates.	36	30	3	,,
84	2½	H.	Sept. 6 ,,	38	6	6 & 7	3	1	Phosphates and urates mixed.	12	65	4	,,
85	7	M.	,, 17 ,,	22	6 & 7½	8 & 10	2	1	Phosphates and urates, nucleus oxalate of lime.	24	67	3	,,
86	3	M.	,, 19 ,,	9	6	7	1	1	Uric acid, urate of ammonia, and phosphates.	6	26	2	,,
87†	12	H.	Oct. 23 ,,	57	6	6, 7, & 8	5	1	Phosphates and urates mixed, nucleus oxalate of lime.	8	64	1	Died
88	4½	H.	Nov. 15 ,,	16	6	7 & 8	3	1	Oxalate of lime and phosphates.	7	43	3	S.
89	4	M.	,, 20 ,,	59	5½	5 & 6	2	1	Mixed uric acid and phosphates.	4	17	3	,,
90	10	H.	,, 21 ,,	53	7 & 6	8 & 9	4	1	Oxalate of lime and urates.	36	148	3	,,
91	5	H.	,, 27 ,,	49	7 & 6	7 & 8	5	1	Urates, phosphates, and oxalate of lime.	24	117	2	,,
92	4	H.	Dec. 16 ,,	26	6	6 & 7	3	1	Urate of ammonia, uric acid, and phosphates.	18	53	3	,,
93	6	H.	,, 24 ,,	25	6	6 & 8	3	1	Mixed urates, phosphates, and oxalate of lime.	8	75	2	,,
94	5	H.	Feb. 5, 1889	15	6	7 & 8	2	1	Uric acid with oxalate of lime nucleus.	7	37	10	,,
95	5	H.	,, 7 ,,	34	6 & 7	7 & 8	4	1	Oxalate of lime and urates.	12	57	4	,,
96	13	H.	,, 11 ,,	79	7 & 6	8, 7, & 6	8	1	Principally phosphatic.	24	120	4	,,
97	2½	H.	,, 26 ,,	10	4½	5 & 6	1	1	Urates, oxalate of lime, and some phosphates.	2	4	2	,,
98	5	H.	March 6 ,,	24	6	6, 7, & 8	2	1	Oxalate of lime and urates.	10	45	2	,,
99	10	H.	April 30 ,,	23	6 & 5	7 & 8	3	1	Oxalate of lime, phosphates, and urates.	24	43	3	,,
100	4	H.	May 25 ,,	22	6 & 7	8 & 9	3	1	Oxalate of lime and urates.	12	65	5	,,
101	5	M.	June 3 ,,	9	6	7 & 8	2	1	Oxalate of lime, phosphates, and urates.	12	11	2	,,
102	2½	H.	,, 13 ,,	5	6	7	1	1	Uric acid.	5 days	4	1	,,
103‡	7	H.	,, 14 ,,	51	7 & 9½	8, 10, & 11	7	1	Oxalate of lime, urates, and phosphates.	Unknown	254	3	Died
104	2	H.	,, 28 ,,	12	5½	6 & 7	2	1	Urates and oxalate of lime.	4	8	2	S.
105	5	H.	July 9 ,,	42	6	6, 8, & 9	3	1	Urates and phosphates.	24	50	1	,,
106	11	H.	,, 13 ,,	83	7, 6, & 5½	8 & 7	8	1	Urates, oxalate of lime, and phosphates.	16	134	3	,,
107	10	H.	,, 23 ,,	55	9½ & 10½	8, 10, & 12	9	1	Oxalate of lime and urates.	16	373	2	,,
108	4	M.	,, 25 ,,	29	6 & 5½	8 & 7	3	1	Urates and oxalate of lime.	4	38	1	,,
109	10	M.	Aug. 3 ,,	77	7½, 7, & 6	8 & 9	9	1	Oxalate of lime and urates.	Unknown	202	3	,,
110	3½	M.	Sept. 14 ,,	11	5½	6 & 7	2	1	Uric acid and oxalate of lime.	,,	11	2	,,
111	4	M.	Oct. 25 ,,	22	4½	6 & 7	4	1	Urates and oxalate of lime.	3	12	6	,,
112	7	H.	Nov. 5 ,,	24	7 & 6	10 & 7	3	1	Mixed urates, oxalate of lime, and phosphates.	Unknown	105	2	,,
113	4	M.	,, 10 ,,	10	5½	6	2	1	Oxalate of lime and urates mixed.	2	8	2	,,
114	10	H.	Dec. 4 ,,	67	9·5, 7, & 6	8 & 9	7	1	Urates and oxalate of lime in equal proportions.	36	220	11	,,
115	5	H.	Jan. 12, 1890	15	7 & 6	8 & 7	2	1	Uric acid and oxalate of lime.	24	41	2	,,
116	8	H.	,, 12 ,,	21	7 & 6	8	3	1	Lithate of ammonia and urates.	24	54	2	,,
117	6	H.	,, 15 ,,	46	7 & 6	8 & 9	5	1	Oxalate of lime, urates, and phosphates.	14	110	4	,,
118	2	H.	,, 28 ,,	32	4½ & 6	7 & 8	3	1	Uric acid.	12	65	3	,,
119	6	H.	,, 30 ,,	25	6 & 5	8 & 6	3	1	Urate of ammonia and phosphate of lime.	48	55	3	,,
120§	7	H.	Feb. 21 ,,	56	7 & 6	8, 9, & 7	6	1	Phosphate of lime, uric acid, and earthy phosphates.	24	188	1	Died
121	2½	H.	March 11 ,,	19	4½	7 & 6	2	1	Oxalate of lime and urates.	1	5	2	S.
122	14	H.	,, 16 ,,	66	9½ & 7	10	8	1	Uric acid.	12	295	4	,,
123	9	H.	April 7 ,,	67	6 & 5	7 & 6	7	1	Phosphate of lime and urates.	6	88	4	,,
124	13	H.	,, 7 ,,	54	10½, 9½, & 7	12 & 10	6	1	Nucleus oxalate of lime and phosphates.	84	240	3	,,
125	6	H.	,, 9 ,,	35	6, 7, & 5	7 & 8	5	1	Mixed urates, phosphates, and oxalate of lime.	12	75	3	,,

Percentage of mortality following operation, 3·2. Average number of days spent in hospital after operation, 4·6. Average age of boys, 6·38 years. Average weight of stone removed, 89·15 grains.

* Successful.

† Post-mortem examination showed extensive organic disease of both kidneys; case fully detailed at page 3, Indian Medical Gazette, January, 1890.

‡ Post-mortem examination showed extensive organic disease of both kidneys; case fully detailed at page 3, Indian Medical Gazette, January, 1890.

§ Post-mortem examination showed organic disease of kidneys with dilated ureters; details of case have not yet been published.

plishment and the safest of the three operations. But into the somewhat difficult subject as to which of these three operations it is best to adopt whenever litholapaxy is found impracticable in male children and boys I do not for the present intend to enter, as my main object in this paper is to show that litholapaxy can deal successfully with the great majority of calculi which the surgeon meets with in male children and boys. The information compiled in the accompanying table proves the truth of my contention, and when I add that out of eighty-six male children and boys who were admitted into the Indore Hospital during the past three years suffering from stone in the bladder I treated seventy-nine by litholapaxy, it will be seen that my opinion is based on solid ground.

But when I advocate litholapaxy as being the best operation, in my opinion, for the great majority of cases of stone occurring in male children and boys, I do so with a very important reservation—viz., that no one should attempt to perform it in boys until he has first gained some practical experience of it in adult males. The surgeon who meets with cases of stone only at rare intervals during his career will be acting more wisely if he adheres to lateral lithotomy or supra-pubic cystotomy. It is his misfortune, and not his fault, that he has not been afforded many opportunities of gaining a practical familiarity with the use of the lithotrite. But, on the other hand, he must not flatter himself that because he has performed a successful lateral lithotomy or a supra-pubic cystotomy for a stone weighing thirty grains on a boy of ten years of age, into whose urethra a No. 8 lithotrite would have readily passed, that that boy has been especially lucky in coming under his care. For he may rest assured that the boy would have been luckier still had he been entrusted in the first instance to the care of one skilled in performing litholapaxy.

I perceive that there is a tendency in some quarters in England to eliminate the word "litholapaxy" from the nomenclature of surgical operations; or perhaps it would be more correct to say that there is a tendency to make the word "lithotrity" include "litholapaxy." The words "lithotrity" and "litholapaxy" are neither of them perfectly happy in designating the operation first practised by Bigelow for ridding the bladder of a stone. To put it figuratively, "lithotrity" is so absorbed in crushing the stone that it omits all mention of evacuating the débris, whilst "litholapaxy" is so taken up with evacuating the débris that it ignores the crushing. I must, however, confess that I have a special liking for the word "litholapaxy," because, in the first place, whenever it is used everybody interested in the surgery of stone in the bladder knows perfectly well what the word implies; and in the second place, I like it because its continued use in surgical nomenclature will have the effect of inseparably connecting Bigelow's name with a new era in the surgery of stone in the bladder.

Perhaps "lithotrity (Bigelow)" might with advantage be substituted for "litholapaxy," and, as Mr. Buckston Browne proposes, the word "litholapaxy" could then be exclusively employed in designating that operation by which calculi are extracted from the bladder through evacuating tubes without using the lithotrite. But lithotrity as first practised by Bigelow—i.e., lithotrity coupled with total evacuation of all débris at one operation, should not be confounded with the obsolete lithotrity of many crushings, without evacuation of débris, which preceded the year 1878. I remark that there is a tendency to confound these two very different operations, and to make them do duty one for the other when statistics and other questions bearing on the surgery of stone in the bladder come under discussion. For instance, Sir Henry Thompson in a footnote to a letter which appeared in THE LANCET of Feb. 15th, 1890, page 372, tells us that there is nothing new in performing lithotrity in children, and that the only thing novel about it is that it is now applied to large stones in this class of patients. Everybody who knows anything about the history of the surgery of stone in the bladder knows perfectly well that years and years ago lithotrity without evacuation of the débris of stone at the time of operation was practised with disastrous results. But lithotrity by Bigelow's method, or litholapaxy, when applied to male children and boys, is new, or comparatively new; and, what is still better, is an eminently successful operation in practised hands, and was first performed at the Indore Hospital, Central India.

St. James's-square, S.W.

FIVE CASES OF LIGHTNING STROKE OCCURRING SIMULTANEOUSLY.

By PERCY POPE, M.R.C.S.,
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ON Saturday, Aug. 2nd, whilst a cricket match was being played on the club ground of the Aldershot Division at Aldershot, five men (privates in the regiments stationed there), who were onlookers, were struck by lightning and severely injured—one fatally. Being present at the time, and having assisted in rendering immediate aid to the unfortunate men, my observations may possibly be of interest. I will preface my remarks by mentioning that the storm had shown but few symptoms of its close proximity. Heavy clouds had been observed approaching from the north, and but one or perhaps two flashes of distant lightning observed. No rain had fallen, and the match was in actual progress when the fatality occurred. On the north side of the ground is a row of small trees, chiefly beeches and poplars, and under these trees were congregated many of the men who, stationed at Aldershot, were watching the match. The unlooked-for flash of lightning, with simultaneous thunder, which I can best describe by comparing it to the bursting of a shell, was immediately followed by cries for help by the unfortunate men under one particular tree which had been struck, and a piece of bark about three feet from the ground detached. The size of the piece was about two feet long by six inches wide. Surgeon Trask, who was also playing in the match, and myself at once hurried to the spot. The flash was immediately followed by heavy rain. For the sake of convenience I will describe the cases under numbers, No. 1 being the most severely injured and No. 5 the least injured. The men were carried out from under the tree and immediately examined. No. 1 was found to be dead; the respiration and pulse had ceased. Artificial respiration was persisted in for some minutes without avail. The face was florid, and the heat of the face and body appeared to the hand to be above the normal. (The man had been for some time watching the match, and was therefore not heated by exercise.) The conjunctivæ were congested; pupils dilated; eyes open. The hands were not clenched, and all the muscles appeared flaccid. There were no marks of injury to the head or face. This man had been sitting on the ground with his back to the tree, and the piece of bark mentioned above was detached just above his head. His comrades who lifted him described his head as being stuck to the tree. There were no marks (as I mentioned) on the head, and no hair on the tree, and I attribute their description of the man's state to the weight of a dead man's head falling backwards. No. 2 was quite unconscious. The respiration had ceased; the pulse was still perceptible. There were marks of burning (resembling ecchymoses) on the left side of the face, neck, and upper part of the left side of the chest, which appeared to branch off from the greatest part of injury on the neck and shoulders, forming the arborescent lines described in text-books; but they did not appear to me to resemble in any way the "photograph of the tree." The hair on the left side of the head was burnt and singed. In this case artificial respiration was rewarded after some minutes by a gradual return to consciousness. Brandy was administered. As soon as possible the patient was covered with blankets and removed to the pavilion, and later to the Cambridge Hospital, Aldershot. In this case also the conjunctivæ were congested (the pupils I did not see till some minutes after the shock). As vitality returned the patient complained of severe pain in the legs. (This was the remark of all those badly injured who recovered. They were not paralysed.) He was restless, semi-conscious, pulse feeble and somewhat quick. The condition reminded me more of the state described as reaction with excitement which is seen in concussion of the brain than in anything else. The patient vomited. During this condition he was removed to the hospital. Nos. 3, 4, and 5 were able to be assisted at once to the pavilion; they were placed in the recumbent position and stimulants administered. Consciousness returned some few minutes after being struck. Before being removed to hospital they were able to answer the following questions. They none of them remembered being struck, or calling out immediately afterwards. They felt nothing until they returned to consciousness. No. 3

complained of severe pain in his head, his left arm and both legs, especially the legs. The lower limbs were not paralysed; the pains in no way resembled "pins and needles," but severe sharp continuous pains down the whole length of the thighs and legs at back. No. 4 complained of pain in the left arm and leg similar to No. 3; no pain in head. No. 5 complained of pain in both thighs and legs from the hips downwards, especially at back; no pain in the head. Nos. 3, 4, and 5 did not vomit. The survivors all stated that they felt quite warm, and did not feel cold at any time.

For some minutes after the occurrence the atmosphere smelt most strongly of fire, the fumes being slightly sulphurous, resembling more the smell that is generated by the electric sparks given off from a very large dynamo. Several others near the spot were knocked down by the electric current, but did not receive injuries necessitating medical assistance. Most of the players in the field experienced a "shock"—some mildly, others more severe.

P.S.—Since writing the above I have courteously been informed by the surgeon in charge (Cambridge Hospital) that the men all progressed favourably and returned to duty a few days afterwards.

Broadmoor.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF RUPTURED GRAAFIAN FOLLICLE, PRODUCING FATAL PERITONITIS.

BY JOSEPH WIGLESWORTH, M.D. LOND., M.R.C.P.,
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THE rarity with which fatal results occur as a sequel to rupture of a Graafian follicle renders the following case one worthy of being placed on record.

Harriet A——, aged twenty-four, was admitted into Rainhill Asylum on Oct. 18th, 1889. She had suffered from epilepsy since eleven years of age, and during the last year or two had had associated with the fit attacks of mental excitement, which had proved temporary; during the intervals between the attacks she was fairly bright and rational. She had menstruated regularly since the age of fourteen, and her fits were usually worse at these periods. She had not, however, menstruated since her admission into the asylum. Nothing of note occurred until Jan. 7th, 1890, when she complained of dyspeptic symptoms, foul tongue, and bad taste in the mouth. On the following day, not appearing so well, she was put to bed, and an examination revealed pain and tenderness in the hypogastric region. On the 9th the pain and tenderness had spread all over the abdomen; the temperature rose to 103·4° in the morning, and 104·6° in the evening, and the pulse was quick and wiry. It was clear, indeed, that the peritonitis had already become general. On the 10th the temperature fell to 101·2° in the morning and 100·4° in the evening; but the abdominal pain and tenderness continued in spite of the free administration of opium. On the 11th a free menstrual discharge set in, and the patient appeared better. The improvement was maintained on the following day (the 12th), but on the 13th the menstrual flow stopped rather suddenly, and collapse set in. The abdomen was now much distended and tympanitic. The collapse gradually deepened, and the patient died on the evening of the 14th.

At the necropsy, which was made on Jan. 16th, very acute peritonitis was disclosed, the intestines being glued together with recent lymph, and the pelvic cavity containing almost pure creamy pus. The right ovary exhibited on its upper surface a ruptured cyst the size of a large marble; the cyst arose from a broad base, and the orifice was likewise broad with somewhat jagged margins; a small, partly decolourised clot was attached to the floor. The cyst wall was thin, and a microscopical examination by Dr. Thelwell Thomas showed no epithelial lining. It was clearly simply a ruptured Graafian follicle. Adjoining the large cyst was a small one, the size of a pea, with a similar protruding little clot. The remainder of the ovary was healthy. The left ovary and the uterus were also quite healthy. There was no cause whatever discoverable for the peritonitis beyond the lesion just described. The thoracic organs were normal. The liver and kidneys exhibited cloudy swelling of the epithelium. The uterus and ovaries were exhibited at a meeting of the Liverpool Medical Institution on Feb. 13th, 1890.

Liverpool.

BONE GRAFTING BY DECALCIFIED BONE CHIPS.

BY R. W. MURRAY, F.R.C.S.

I READ with much interest in THE LANCET of Sept. 20th the report of Mr. Miller's successful case of bone grafting with decalcified bone chips, and feel sure that this method, as recommended by Professor Senn, is a great advance in the treatment of bone cavities. During the last two months I have on two occasions been successful in transplanting decalcified bone chips into bone cavities, resulting from the removal of tubercular material. The first case was that of a girl aged twelve years, who was suffering from chronic tubercular disease of the carpus, bones of the forearm and elbow-joint, necessitating amputation above the elbow-joint. The lower end of the humerus was found to be so extensively diseased that the bone had to be divided one inch and a half above the condyles. The medullary cavity at the point of section was filled with unhealthy looking, gelatinous material, and the interior of the bone was scraped for a distance of two inches before healthy marrow was reached, a mere shell of bone remaining. This cavity I filled with decalcified bone chips well dusted with iodoform. The wound healed but slowly (as I had to amputate through old sinuses), but the result has been very encouraging, a firm but somewhat bulbous stump resulting, due to excess of bone formation.

The second case was that of a boy aged six years, who had old-standing disease of the tarsus, with a sinus over the inner aspect of the first metatarsal bone. I freely enlarged the sinus, gouged away the greater part of the first metatarsal bone, and probably the internal and middle cuneiform bones; the cavity resulting was then filled with decalcified chips, and the skin united over it, with the exception of an opening for a drainage-tube. A few chips in the neighbourhood of the drainage-tube subsequently came away in the form of a gelatinous aseptic slough, but by far the greater number of the grafts held, and the small sinus still remaining is granulating rapidly.

What the ultimate result will be in the second case I am not prepared to say, but so far it is at least encouraging. My reason for somewhat prematurely recording these results is to assist in giving prominence to a mode of treatment that in suitable cases will, I feel convinced, be found satisfactory.

Liverpool.

SUCCESSFUL OPERATION FOR IMPERFORATE ANUS.

BY ROBERT SANDERSON, M.B. OXON.

Mrs. B——, a primipara aged twenty-three, was delivered naturally of a female child at full time on May 17th, 1889, at 12.30 A.M. Presentation vertex, first cranial. Father and mother both healthy. On examining the child immediately after birth, I noted that the anus was imperforate, the usual site of it being indicated by a faint longitudinal depression or dimple. The following morning, with the consent of the parents, I operated. On pressing the abdomen, which was not specially distended, a bead of meconium presented at the vaginal orifice, and a probe revealed a minute opening high up in the vagina, and apparently in the posterior cul-de-sac, communicating with the bowel. A silver director suitably bent was pushed into the bowel and cut down upon through the anal dimple above mentioned, and the edges of the opening into the bowel thus made were with considerable difficulty gradually drawn down and stitched with four silk sutures to the edges of the external skin. I was indebted to Mr. A. Nicholson for valuable assistance during the operation. No anæsthetic was used. The lowest part of the bowel was quite three-quarters of an inch from the external skin. So soon as the wound had

healed, an ordinary glycerine enema syringe was passed daily, and a teaspoonful of olive oil injected therewith. By this means a daily action through the new opening was induced, and the tendency to contraction at the same time counteracted. Subsequently, as the child grew and thrived, pewter bougies, the sizes of Nos. 12, 14, 16 catheters, were made two inches and a half long, and used to dilate the orifice *pari passu* with the child's growth. The ends were made bulbous, and slightly larger than the waists, so that they might be the more easily retained for a time. The vaginal opening still persists, but, being small, it is rare for any faeces to find their way through it. Anal control is very good; both the sphincter and levator ani muscles apparently act quite perfectly. The child is now sixteen months old, and in good health.

Brighton.

A DIFFUSE ERYTHEMATOUS RASH, PROBABLY DUE TO QUININE.

By ASHLEY LEGGATT, M.D. EDIN.

THE following case is, I think, worth recording. On Sunday, Aug. 31st, I was sent for by a patient who had been under my care for a fortnight with an ulcerated leg. Two days before I had prescribed forty-five minim doses of Easton's syrup, and he said that the tonic I had given him "had brought him out as red as a lobster." On my arrival I found the patient covered with a diffuse erythematous rash, the only part of the body which had escaped being the toes and the palms of the hand. The ears were much swollen, and here the rash was distinctly vesicular; some of the vesicles had broken and covered the pillow with the discharge. The eyelids, hands, elbows, and knees were also slightly swollen, but in spite of the intensity of the cutaneous inflammation there was little or no constitutional disturbance, though the patient had been kept awake all night by the burning and itching. No indiscretion in the diet could be discovered to account for it, and the patient seemed quite certain that the quinine in the Easton's syrup was the cause, as nine years ago three doses of quinine prescribed by a medical man had produced exactly the same symptoms. On the present occasion the patient felt a burning and flushing of the face after taking the first dose, but thought nothing of it, and it was only after the second dose, when the above symptoms were greatly aggravated, that he remembered his experience of nine years ago, and looked at the prescription to see if it contained quinine. The rash lasted for a week and disappeared gradually, the face and upper extremities being the last to show traces of it. The previous attack of erythema following the administration of quinine renders it more than probable that the present attack was due to this ingredient of the syrup. I can find no record of any of the other ingredients ever producing a similar rash. I have thought the case worth recording, as Dr. Pye-Smith in Fagge's Medicine says it is a very rare effect of so popular a medicine, and also on account of the vesicular character of the rash, which, according to the above authority, is rarer still.

Walton-place, S.W.

THE CREMATORIUM AT WOKING.—By invitation from the Cremation Society of England nearly 100 members of the Association of Public Sanitary Inspectors visited this crematorium on Saturday, Sept. 27th. Sir Spencer Wells, Dr. B. W. Richardson, Capt. W. H. James (chairman of the Sanitary Committee of the London County Council), and other gentlemen were present. The secretary of the Society conducted the assembled company to the crematorium, a plain brick edifice, containing a roomy chapel in which the burial service is read, and opening from that is the entrance to the furnace, which on this occasion was used for the incineration of the body of a sheep. The body deposited an adjournment to the chapel took place, when Sir Spencer Wells welcomed the visitors. Dr. Richardson followed, and urged cremation on hygienic grounds in preference to the earth-to-earth system as the best means of disposing of the dead. The secretary stated that since the beginning of the present year there had been thirty-eight cremations at Woking, as compared with only 100 in the thirteen years which preceded it.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

GREAT NORTHERN CENTRAL HOSPITAL.

A CASE OF ULCERATION OF THE VERMIFORM APPENDIX; NECROPSY; REMARKS.

(Under the care of Dr. SYERS.)

WE give below an account of a case of acute diffuse purulent peritonitis secondary to perforation of the appendix vermiformis, which unfortunately terminated in death, as such cases are only too likely to do. This form of peritonitis is admittedly one of the most fatal of peritoneal inflammations, even when the history of the case is clear and the symptoms such as to lead the physician to a correct diagnosis of the disease. Sometimes, as in the following case, instead of the acute onset and rapid course with which we are familiar, the attack is preceded by a sensation of uneasiness and some pain in the region of the appendix, but this may not be sufficient to compel the patient to cease working or cause anxiety to the medical attendant. As nothing but early operative treatment is likely to be successful in averting a fatal termination, it is of great importance that all information, such as that obtained from the publication of the records of unusual examples of this form of peritonitis, should be afforded the profession. Dr. Musser,[1] in a paper last year, reported nineteen cases of acute peritonitis which recovered without operation. Of these he considered that eleven were due to perforation of the appendix; this, however, must remain doubtful. Dr. W. Pepper[2] lays stress on rectal examination in these cases. He writes: "The moment that by rectal exploration we are able to detect the slightest fulness in the cæcal region laparotomy should be performed," but admits that rectal examination may reveal no change, as in a case under his care where there was nothing abnormal to be felt eighteen hours before death. Dr. Lydstone[3] of Chicago has recently advocated early operative interference in cases of peritonitis, especially in the so-called fulminant attacks, and those which, although less acute, resist ordinary measures of treatment. There have been undoubted successes obtained by laparotomy and irrigation of the peritoneal cavity, few better than attended a case under the care of Dr. Barlow and Mr. Godlee.[4] We cannot enter fuller into a consideration of this subject, but refer our readers to papers which we have already published.[5] For the following notes we are indebted to Mr. Peyton T. B. Beale.

H. T. C——, aged twenty-one, a butcher, walked into the Great Northern Central Hospital on Aug. 24th, 1890, complaining of slight pain in the epigastric region of the abdomen. His history was as follows. He had complained of very slight abdominal pain on stooping for about a week. He worked up to the evening of Aug. 23rd (assistant in a butcher's shop), but complained of abdominal pain, and went to bed at 9 P.M. He vomited three times during the night. On the morning of the 24th he got up, vomited once, and came to the hospital. He then looked perfectly well. Tongue furred; temperature 101°. He complained of pain in the abdomen, and tenderness on pressure over the hypogastric region. Pulse 90, full and compressible. Heart and lung sounds normal. He was admitted, put to bed, and given milk and beef-tea diet. His urine, drawn off by catheter, was loaded with urates, otherwise normal. A simple enema produced a copious action of the bowels. In the evening of the same day (24th) he had pain in the right hypochondriac

[1] University Med. Magazine, February.
[2] Med. and Surg. Reporter, 1887, vol. ii., p. 700.
[3] THE LANCET, vol. ii. 1890, p. 138.
[4] Clin. Soc. Reports, vol. xix.
[5] Dr. Goodhart, THE LANCET, vol. i. 1887, p. 461. Dr. H. W. G. Mackenzie, THE LANCET, vol. ii. 1888, p. 1116.

and in the hypogastric regions; worse on pressure. There was dulness on percussion over the lower lobe of the right lung, and coarse crepitations were heard over that area. His temperature was 102° F., and in the absence of any other definite symptoms he was supposed to have some commencing broncho-pneumonia. He was ordered one ounce of brandy every hour. He remained in much the same state until the 25th, taking milk, beef-tea, and brandy well, and some ether and ammonia mixture every hour. At 12 midday on the 25th his pulse suddenly became feeble, and he had much dyspnœa; countenance anxious, pain in the abdomen worse, but not localised. He was put on two ounces of brandy every hour. At 5 P.M. he complained of great pain in both iliac regions, not worse on pressure; pulse almost imperceptible. At 10 P.M. pulse quite imperceptible. He became delirious, got out of bed and ran about the ward shouting. He was put to bed again, gradually sank, vomited the contents of his stomach, and died at 11 P.M.

At the necropsy held on Aug. 27th, at 4 P.M., which was made by Dr. Syers, forty-one hours after death, all the intestines were matted together by recent lymph. There was pus in the peritoneal cavity, between the coils of intestine and between these and the diaphragm. The peritonitis was most marked at the cæcum. In the vermiform appendix, close to its junction with the cæcum, there was a hard fæcal calculus one-third of an inch in diameter; this had caused ulceration to such an extent that the base of the appendix was riddled with openings. The appendix was bound to the cæcum by inflammatory lymph, but was quite free from the parietal peritoneum. The right lung was congested and œdematous, and there was evidence of slight bronchitis also. The left lung and all other organs were normal and healthy in appearance.

Remarks by Mr. BEALE.—The following points are worthy of notice: 1. The patient had no definite symptoms of peritonitis until twelve hours before death, operation then being out of the question. 2. The peritonitis, as seen at the post-mortem, must have existed for days, if not weeks. 3. The lung symptoms (pain over the left base, crepitation, and rhonchi, and temperature) led to the diagnosis of commencing lung mischief, in the absence of other definite symptoms. 4. Any severe abdominal lesion was not and could not have been diagnosed until the abdominal pain became severe, and the pulse failed twelve hours before death.

PRINCESS ALICE HOSPITAL, EASTBOURNE.

SEVERE SELF-INFLICTED PUNCTURED WOUNDS OF THE HEAD; RECOVERY.

(Under the care of Dr. MACQUEEN.)

WE have recently referred to the question of punctured wounds of the cranium, and the treatment which is indicated in such cases,[1] whether the instrument producing the injury or part of it be lodged in the skull or not, and have given instances of recovery, some of them of extraordinary character. We do not propose to consider the question of treatment of such wounds now, but merely draw attention to the chief points in this case, which is one of very considerable interest. It is a remarkable instance of an attempt to commit suicide, and one which has few parallels in history. The amount of determination which the man exhibited in driving these four nails of large size deeply into his own skull is only equalled by the fact that no very serious consequences have so far followed the rash act. There is great probability that none of the nails penetrated the cerebral substance, and it is possible that the longitudinal sinus was the only important thing within the skull that received injury. As an example of recovery from injuries caused by large instruments, and as a case presenting some characters similar to this, we would remind our readers of the patient under the care of Fournet. The man had driven a cabinet-maker's chisel into the top of his head as far as it would go. This was withdrawn by the surgeon with much difficulty. It was considered probable that in this instance brain tissue was uninjured, for in an experiment on the head of a dead body the chisel passed to its full extent in a similar direction in the middle line without wounding the brain on either side, though it divided the longitudinal sinus.

On Thursday, June 26th, 1890, Dr. MacQueen was called to see a man aged thirty-five, a bellhanger. He found him lying on the floor of the kitchen with a nail sticking from the forehead. He tried to remove it with his hand, but it was too firmly fixed, so he procured pincers from the man's tool basket and removed it. Dr. MacQueen then ordered his removal to the Princess Alice Hospital. The men who took him in the cab, on lifting his head to remove him into the hospital, saw the heads of three other nails in the head. These were situated: one close to the occiput, one at the top of the head in the middle line, and the third about an inch in front and a quarter of an inch to the left of the middle line. As it was doubtful if he could have driven in the nail in his occipital region himself, the patient was questioned as to who did it, and he answered slowly, but distinctly, "I done it." The two nails in front were removed without very much difficulty, but required considerable force. It was difficult, however, to lay hold of them, as they were hammered so close up to the scalp. The one in the occipital region required very great force indeed to extract it; it was so firmly fixed. There was considerable venous bleeding from the nail hole on the top of the head in the centre, and it was considered that the sinus was penetrated. The nails were all of the same description, the best make of three-inch French nails. The one in the forehead had penetrated the skull about an inch and a half, while the other three were driven "home." Ice-bags were continuously applied. The pupils at first were dilated but equal, reacting perfectly to light, and afterwards became normal; no trace of paralysis; no loss of consciousness; no headache until June 30th, and then it is doubtful if it was not external and due to some tenderness of the scalp. No sickness or vomiting. Pulse was about 80. The temperature, taken every two hours, rose to 100·4°, and fell to nearly normal on July 1st in the morning, and rose on the evening of that day to 102°.—July 2nd: This morning bagging of the scalp close to one of the nail holes was found, and pus evacuated. Since then the temperature has been going down. Takes his liquid nourishment well. Gout in his left wrist appeared on Sunday morning, June 29th, but this soon improved. There was no history of insanity in the family. History of drinking (difficult to get evidence), not getting drunk, but soaking. He confesses that he has been in the habit of taking half a dozen glasses of beer a day; but this might be doubled and then not overstep the mark. There was another wound in the forehead. He had evidently tried to insert the nail at this place, and found it did not go in well.

On July 3rd his temperature was normal, his pulse 76, and he was practically well with the exception of some little discharge from two of the nail wounds. His tongue was still coated, but he said he felt quite well, was without pain, and his head felt better than it did before he tried to hurt himself. He had slept for six hours. He was quite rational and showed no sign of insanity; he said that he knew what he did, and that it did not hurt. The ice-bags were removed yesterday.

July 4th.—Slept well. Head feels better than before the injury. There was no rise in temperature afterwards. The history of the progress of the case is one of uninterrupted recovery. He was discharged from the hospital on Aug. 2nd feeling well and strong, with a good appetite. He had not shown any signs af insanity during his stay in the hospital.

[1] THE LANCET, vol. i. 1890, p. 663.

Reviews and Notices of Books.

Anæsthetics, Ancient and Modern: their Physiological Action, Therapeutic Use, and Mode of Administration. By GEORGE FOY, F.R.C.S. Pp. 175, with Illustrations. London: Baillière, Tindall, and Cox.

THE work before us is in the main a reprint of some papers which Mr. Foy published in the *Dublin Journal of Medical Science*, and the fact of its appearance in the first instance as detached articles probably accounts for the amount of repetition and want of methodical arrangement which characterise the volume. The chapters dealing with the employment of narcotics—mandragora, cannabis indica, &c.—among the ancients introduce us to Pliny, Dioscorides, Averrhoes, Ætius, Ugone da Lucca, and even Merlin the magician, and to the author of the "Decameron," and give at considerable length the references to the methods of inducing anæsthetic sleep before the employ-

ment of ether. When Chapters III., IV., V., a portion of Chapter VIII., and Chapter X.—which deal respectively with the discovery of ether, nitrous oxide, chloroform, and cocaine, and the later chapters, dealing with the experiments made by commissions investigating the action of chloroform—are added to the archæological portion of the work, but little is left to be given to exposition of how to use modern anæsthetics. The student and practitioner whose interest in anæsthetics centres rather about the practical questions, what anæsthetic to employ in certain cases, and how to employ it, will find Mr. Foy's book less precise and clear than could be wished. The chapter (XIII.) dealing with the use of anæsthetics among the "antient Irish" is of interest, but seems somehow to have got divorced from the rest of the history contained in the first five chapters. Turning to the practical side of Mr. Foy's work, we find a rather provoking disinclination to teach any consecutive systems of administration. Thus, we cannot discover any specific directions in what way Mr. Foy would employ either nitrous oxide, ether, chloroform, or cocaine, although it is true we are told on page 136 that "chloroform, ether, and their compounds may be inhaled either by the 'open' or the 'closed' method." The "open" method—i.e., administration from a sponge or folded towel—is certainly not likely to answer for ether, and no directions are given which will enable the inquirer to learn how to employ apparatus. Nor do the pictorial illustrations at the end of the book supply this deficiency. No attempt is made to describe the methods of administering nitrous oxide gas, and that useful anæsthetic is dismissed with the statement that it "has not commended itself to general surgeons." Mr. Foy gives copious extracts from all manner of writers dealing with the chloroform and ether controversy, and, although crediting the former agent with a larger percentage of deaths than is usual, seems to favour its use instead of ether. Nor is this to be wondered at, as he appears to be unfamiliar with modern methods of using ether, either alone or according to the now generally adopted plan of anticipating it by nitrous oxide, and then completing and prolonging the anæsthesia with ether. The book would show to far greater advantage were judicious excision, rearrangement, and careful correcting of typographic errors—such as "Numeley" for "Nunneley," "Sanson" for "Sansom," "Mr. Horace Well's" use of nitrous oxide for "Mr. Horace Wells'"—rigorously practised. As it stands, very much that is of value is overlaid by unimportant cuttings from periodic literature, and is rendered almost inaccessible by reason of the inexact method which has been pursued in preparing the book.

The Organic Analysis of Potable Waters. By J. A. BLAIR, M.B., C.M., D.Sc. Edin., L.R.C.P. Lond. London: J. & A. Churchill. 1890.

WE have read this little volume with much interest. It contains an able account of the author's experiences with certain new processes which have for their object the estimation of the organic impurity of potable waters. The methods hitherto in vogue, though serving as partial guides in judging a water fit or not, are, as every chemist knows, far from perfect. We refer to the albuminoid ammonia method of Mr. Wanklyn, the tedious but elegant combustion method for the estimation of organic carbon and nitrogen of Dr. Frankland, and the method known as the oxygen process elaborated by Dr. Tidy in 1879, by which an estimate of the organic matter was obtained from the amount of oxygen taken up from a standard solution of permanganate. Each of these processes has proved useful in the cause of water analysis. Dr. Blair determines the organic nitrogen by applying the renowned method first proposed by the German chemist Kjeldahl, and known everywhere now as the Kjeldahl process. It consists in treating substances containing nitrogen with strong boiling sulphuric acid. In this way the whole of the nitrogen is converted into ammonia, and the carbon and hydrogen are oxidised. This method has almost entirely superseded the old methods, such as the soda-lime and that of Dumas. Accordingly a given quantity of water is first boiled with a little ignited carbonate of soda to expel free ammonia if present. The water so treated is then concentrated after the addition of a few cubic centimetres of sulphuric acid. Charring proceeds if organic matter is present. This alone is a test. With pure waters no sign of charring takes place. On continuing the heat the acid liquid becomes colourless again. At this point all the organic nitrogen has been converted into ammonia, which of course is present as sulphate. It only remains to neutralise the acid with soda, and to distil off the ammonia, Nesslerising the distillate in the ordinary way. The organic carbon, Dr. Blair estimates by heating the water (after removing carbonic acid by acidulating and boiling) with permanganate and sulphuric acid. The carbon is thus oxidised into carbonic acid, which is made to be absorbed by baryta solution. Specially contrived apparatus, which Dr. Blair fully describes and illustrates, is of course necessary for this purpose. The process shows excellent results with solutions containing known quantities of carbon in the form of tartaric acid, quinine, &c. The oxygen process Dr. Blair modifies merely in one respect—that of temperature. He boils the water gently for two hours with standard permanganate made acid with sulphuric acid, and at the end of that time, after allowing to cool, determines the unaltered permanganate in the orthodox way. He claims that organic matter is more quickly and completely oxidised by this means. The book contains some extremely useful and interesting tables of results which were obtained by these methods, with waters artificially and naturally polluted. In the appendices are given directions for making up the necessary solutions, and a detailed account of a process, which the author finds to be most accurate, for the estimation of nitrates in waters. Dr. Blair has incorporated some excellent results and methods in a book that should find a place on the shelf of the analyst as well as the medical officer of health who happens to extend his operations to the practical analysis of drinking water. We appreciate it too as an effort likely to be instrumental in adding to our knowledge valuable facts which shall help to make sanitation yet more worthy of the title of a science.

OUR LIBRARY TABLE.

The Johns Hopkins Hospital Reports: Gynæcology, I. By HOWARD A. KELLY, M.D. Baltimore.—This volume, consisting of fifteen papers, contains an interesting report of the work done in the gynæcological department of the Johns Hopkins Hospital, Baltimore. The first gives a description of the gynæcological operating theatre in that hospital, and in regard to abdominal surgery discusses the proper relationship between antisepsis and asepsis. This point is of special interest and importance, considering the diametrically opposite views at present held as to the exact methods to be followed. The question resolves itself into this: Should the procedure be one of asepsis, or so-called "cleanliness," without the use of germicides during an operation, or must antiseptics be employed throughout? In the Johns Hopkins Hospital the working rules are that antiseptics or germicides be employed "up to the moment of beginning the operation," and that asepsis be maintained during the operation, the part operated on being preserved in an aseptic state subsequently. Full details are given as to these points. The other papers deal chiefly with the operations

performed from October, 1889, to March, 1890, some of the rarer cases being minutely reported.

Atlas der Bakterienkunde. Von Dr. CARL FRAENKEL und Dr. RICHARD PFEIFFER. Parts 6 to 8. Berlin: Hirschwald. 1890.—Since our last notice of this excellent publication three parts have been issued, containing microphotographs of various pathogenic bacilli, including those of tubercle, leprosy, glanders, and diphtheria. For the most part these photographs are remarkable for the clearness with which the objects are defined; and as they are nearly all from preparations examined under the same power (1000 diameters), the comparison between the various forms is rendered very exact. Of especial interest are those illustrating the bacillus of diphtheria, which is exhibited lying in diphtheritic membrane, and also in agar cultures. The text accompanying the plates is commendably terse, but quite sufficient to elucidate the leading facts in the history of the bacteria figured.

Health and Comfort in Housebuilding; or, Ventilation with Warm Air by Self-acting Suction Power. By J. DRYSDALE, M.D., and J. W. HAYWOOD, M.D. Third Edition, pp. 154. London: E. and F. N. Spon. 1890.—The object of this book is to point out the conditions essential to the construction of a healthy house, and especially with reference to heating and ventilation. A description is given of two houses in which provision is made for heating the incoming air and for withdrawing from each room the vitiated air into a "drum" under the roof; from this a tube or shaft passes to an extract shaft in the kitchen chimney, the heat of the smoke flue of which acts as an extractor of the vitiated air from the drum. In houses already constructed, in which the flue to the kitchen chimney could not conveniently be made, a system of gas burners as extractors is recommended. We greatly doubt whether this mode of ventilation will find favour with the public—it is called self-acting, but evidently requires careful supervision. The authors, in a brief recapitulation, lay down the principal conditions which characterise a healthy and comfortable house. A working model of the system of heating and ventilating was shown at the "Healtheries" in 1887, and is now, we believe, in the Parkes Museum.

The "J. E. M." Guide to Davos-Platz. Edited by J. E. MUDDOCK, F.R.G.S., with analytical notes on the food, air, water, and climate by PHILIP HOLLAND. Fourth Edition, pp. 155. London: Simpkin and Co. 1890.—This is a most satisfactory guide, because it appears to contain all the information requisite to form a judgment on the general eligibility of Davos-Platz as a winter health-resort. Its special fitness in each case must be decided by the medical adviser. From the description given of the complete system of drainage which has been carried out, and of the abundant supply of pure water, it seems a sound conclusion that Davos-Platz is entitled to take a high standing from a hygienic point of view. It is lighted with the electric light, and the best hotels have been fitted up with a view to the health and comfort of the invalids who may decide to winter there. The volume contains full meteorological tables for three years, from April, 1886, to April, 1889, which will be found useful by members of the profession in estimating the probability of the climate proving suitable in any particular case. The editor gives an interesting account of two excursions over the Alps in winter.

Health Springs of Germany and Austria. By F. BUCKLAND, M.B. Pp. 132. London: Allen and Co. 1890.—This work gives a brief but fair description of the principal spas in Germany and Austria, based chiefly on notes collected during visits to them. The author does not seem smitten with the craze for continental spas, believing that as much good may be in many instances derived from some of those at home. He points out that "the systems of drainage in German hotels and lodging-houses are execrable," and strongly advises the use of the bottled table waters, "since the ordinary water is totally unfit for drinking purposes." In his remarks on the nature and uses of the springs, he gives a description of the various classes of waters, and some good hints on the principles which should determine the selection in different cases. The account given of the spas of Germany and Bohemia will be found of service in considering the question where it would be most advantageous to send a patient, and in pointing out the caution which should be observed in the use of the different waters. The author unfortunately does not seem to have appreciated the value of a good index; its absence is a blot.

Walks in the Ardennes, Cycling, Driving, Boating, by Rail, and on Foot. Edited by PERCY LINDLEY. New Edition, pp. 90. London. 1890.—*Tourist Guide to the Continent.* Edited by PERCY LINDLEY. New Edition, pp. 152. 1890.—These two Guides, published by the Great Eastern Railway Company, contain in a small space, and at the moderate price of sixpence, much information which would be found useful in planning a holiday excursion on the Continent. The first is restricted to Belgium and the Grand Duchy of Luxemburg; the second includes also Holland, Germany, and Switzerland. They seem to be carefully and judiciously edited, but are rather sketches of what may be done in the way of a shorter or longer tour than complete guide-books. They have the advantage of being short and suggestive. We would commend them also as having an index of the various places noted; but that of the Tourist Guide has so many inaccurate references as to make it practically useless.

The Relation of Eye-strain to General Medicine. By GEORGE M. GOULD, Ophthalmic Surgeon to the Philadelphia Hospital. 1890.—This is an address read before the Philadelphia Hospital Medical Society on July 9th. It deals with errors of refraction in their now well-known action on the general health.

Murray's Time-table and Publishing Company have issued the seventh of their series of *Penny Pocket Guides.* It is a useful and cheap guide to Brighton, containing a well-drawn map of the town, very suitable for the guidance of strangers. It gives an illustrated description of all the more striking features of the town and places of interest in the neighbourhood. There is a railway time-table and paragraphs dealing with mail despatches, receiving-houses and pillar-boxes, and a cab and omnibus guide. It cannot fail to be most useful to visitors to this fashionable health resort.

Analytical Records.

MALT AND HYPOPHOSPHITE BISCUITS.

(READE BROTHERS & CO., VICTORIA STREET, WOLVERHAMPTON.)

MESSRS. READE BROTHERS have succeeded in preparing an excellent biscuit composed of flour containing 75 per cent. malt flour, with 25 per cent. wheat flour, and in each biscuit is contained half a grain of the combined hypophosphites of lime, potash, and soda. They possess, as would be expected, a strong, though agreeable, flavour, and have the characteristic odour of fine malt. We obtained the following analytical data: Mineral matter, 1·71 per cent.; nitrogen, 1·30 per cent.; or a flesh-forming value of 8·32 per cent. We regard them as an important addition to the list of tonic and nutritive foods.

VIN TONIQUE MARIANI À LA COCA DU PÉROU.

(PHARMACIE MARIANI, BOULEVARD HAUSMANN, 41, PARIS. WILCOX & CO., 239, OXFORD-STREET, LONDON, W.)

This is in all respects an excellent product. Its composition and character may be fairly judged from its taste. It is that of a generous Burgundy combined with the

peculiar flavour characteristic of the leaf of erythroxylon coca. Our analytical notes are as follows: Alcohol, 13·23 per cent. by weight, 16·33 by volume, equal to 28·62 per cent. proof spirit; extract (containing sugar), dried at 100° C., 9·25 per cent.; mineral matter (containing phosphate), 0·52 per cent. Boiling for some time, with the addition of a little carbonate of soda, resulted in the production of a dirty green sediment, probably the coca extractives. (One bottle contains the equivalent of two ounces of leaves.) At the same time a characteristic odour not unlike that of choice tea evinced itself. When the alkaline fluid was allowed to cool it was shaken up with ether, and after a time the ether decanted. On evaporation this yielded a residue which imparted to the tongue a distinctly numbing sensation. Another portion of the residue, with a little hydrochloric acid, gave the characteristic crystals of cocaine hydrochlorate. The virtues of erythroxylon coca are now generally recognised. M. Mariani gives an account of the plant in an illustrated pamphlet. Therein he states that Vin Mariani has never produced cocainism. This is an important point, and is probably one of those examples in which the alkaloid in its state of natural combination differs in some respects in its physiological action from the free alkaloid chemically prepared.

KOLA CHAMPAGNE: NON-ALCOHOLIC, TONIC, AND STIMULANT.

(THE PURE WATER COMPANY, LIMITED, BATTERSEA-PARK, LONDON.)

Kola champagne is delicate in flavour and full in body, and contains in each bottle, according to our analysis, not less than two grains of caffeine, the active principle of tea and coffee. One bottle is, therefore, equal in stimulating and recuperative power to a breakfast cupful of strong tea. The dietetic value of the kola nut was, we believe, first brought before the English public by Mr. Thomas Christy, and it is now well known that it is not only a valuable food, but also a nerve stimulant, comparable only with tea. It appears to occupy a position between cocoa and tea, containing the nutritive ingredients of the former with the caffeine of the latter.

EUCALYPTUS TABLETS.

(KNIGHT & CO., WINTER-SQUARE, LONG-LANE, S.E.)

These are white tablets, smelling strongly of eucalyptus oil. They are directed to be dissolved for most purposes in a gallon of water. We find that the oil is readily expelled from the absorbent by merely heating. The absorbent, according to our examination, is chalk. Eucalyptus is a disinfectant and antiseptic of some value, and it was used for some time with success in antiseptic surgery, though it has given place now to more effectual agents. Its smell is pleasant, and from the fact that it is non-poisonous the tablets may be fairly recommended for domestic use.

AERATED WATERS.

(THE NORTH WOLD AERATED WATER MANUFACTORY, CAISTOR, LINCOLN.)

We have received samples of ginger ale, hop ale, and orange champagne from the above. There is no striking novelty about them. They are carefully prepared, clear and sparkling, and we find them quite free from metallic contamination. The ginger ale to our taste is somewhat too pungent.

VINOLIA CREAM AND POWDER.

(BLONDEAU ET CIE., RYLAND-ROAD, KENTISH TOWN, N.W.)

We have had occasion before to report upon the excellence of Vinolia soap made by Blondeau et Cie. "Vinolia" is an emollient cream intended for the skin in eczema, rash, eruptions, &c. It contains from our analysis oxide of zinc and borax skilfully incorporated with oleaginous matter. It possesses a fragrance of distilled roses. Vinolia powder is characterised by the same odour. It is well adapted as a dusting powder for toilet purposes. From the following evidence we infer it to consist of boracic acid. It burns entirely away on platinum foil without sign of charring. It dissolves in spirit, and the solution burns with a strong green flame. It reddens turmeric paper. Boracic acid is nearly neutral in reaction, as is shown by methyl orange, although it imparts a characteristic port wine colour to the litmus paper.

BAILEY'S PURE CONCENTRATED CLAM JUICE, OR EXTRACT OF CLAMS.

(BAILEY CANNING AND PRESERVING CO., ORLEANS, BARNSTABLE, CO. MASS.)

This preparation is a ropy opalescent fluid, possessing the strong though agreeable smell of the clam, which closely resembles that of fresh lobster. With a suitable quantity of hot water, it makes at once a very refreshing and palatable broth. Our examination showed it to contain:—Total solid matter, 4·07 per cent., of which 1·7 was mineral (chiefly salt and a notable quantity of phosphate); nitrogen, 0·26 per cent., equal to 1·67 flesh-forming material. It is evidently of high food value. Each quart is stated to represent twenty times its bulk of the bivalve. There is one point to be noticed in regard to the use of foods preserved in tins, but more especially liquid foods—they are very apt to contain traces of the metal.

PERIODATE PREPARATIONS.

(IODATE COMPOUNDS COMPANY, MANOR-STREET WORKS, CLAPHAM, S.W.)

We have examined three preparations handed to us by the Iodate Compounds Company. They are: Iodate Fragrante (a liquid dentifrice), Tooth Paste, and Bath Soap. They all contain "periodate." Weaver's periodate is described to be a compound of per-iodic acid with metallic oxides and alkalies of a non-toxic character. Its exact chemical constitution does not appear to be understood. Periodic acid and periodates are of course familiar to chemists as powerful oxidants. The result of our analysis with the Iodate Fragrante showed it to consist of a weak soap solution in which is dissolved the so-called periodate. It is a strongly alkaline, frothing fluid of a pinkish colour. Acids change it to yellow, setting free a fatty acid and causing it to emit a distinctly chlorous odour; but no iodine would appear to be liberated. Evaporated to dryness and ignited, it yields a residue of iodine with a little iodate, for on adding acid and starch emulsion to it, a blue colour is obtained, which is intensified by the addition of hydrogen peroxide. The ash from the soap and tooth paste gave similar results. Periodate is apparently a strong antiseptic and disinfectant. The non-poisonous character of it, moreover, renders it of additional value.

THE DIAZO REACTION.

To the Editors of THE LANCET.

SIRS,—May I be allowed to point out that Dr. Stephen has not followed exactly Dr. Ehrlich's directions concerning the use of the test solution, and that the delay in the appearance of the characteristic colour was probably due to the acidity of the fluid. After mixing the solution as described with an equal quantity of urine, it is necessary to add ammonia in excess, so as to make the liquid strongly alkaline. The ammonia must be poured in rapidly, and not drop by drop; it is perhaps better to make the urine alkaline with ammonia before adding the solution. The superficial layer of the sediment which forms in the mixture has a green or violet colour. According to Ehrlich, the diazo reaction appears to be almost constant in enteric fever, typhus exanthematicus, and measles; it is frequently seen in acute miliary tuberculosis and puerperal fever; rarely in pneumonia, scarlatina, diphtheria, and erysipelas; very rarely in rheumatic fever, meningitis, and in the following chronic diseases: valvular lesions of the heart, chronic hepatitis, carcinoma of the pylorus, leukæmia, marasmus senilis, malarial cachexia, and cold abscesses.

I am, Sirs, yours faithfully,

Harley-street, W., Sept. 26th, 1890. J. KESER, M.D.

THE LANCET.

LONDON: SATURDAY, OCTOBER 4, 1890.

THE contributions to the recently issued Journal of the Leprosy Investigation Committee are at once instructive and suggestive. Coming from the pens of experts, from those who have had much personal acquaintance with the disease and those who have studied its natural history and pathology, they form a valuable collection of opinions which serve to illustrate the difficulties of inquiry and the obscurity that still dominates the subject. The need for investigation is clearly shown, but the complexity of the questions to be investigated is manifestly great. Many of the writers furnish lists of questions requiring answer; some, indeed, limiting themselves to these, whilst others deal more generally with the subject. It could hardly be expected that anything like unanimity of view should prevail, and, without attempting to cover the whole ground, it may be useful if we submit some of the suggestions here advanced upon moot points regarding the disease. In the first place, there is considerable divergence upon the essential nature of leprosy. Sir W. MOORE stands alone in the belief that it is "a phase of inherited syphilis." Mr. HUTCHINSON shows that there is nothing in common between the two affections, and declares that there is no reason against their concurrence in the same subject. Indeed, he thinks that some of the examples of partial recovery may be explained by this concurrence. Surgeon-General BEATSON contends that leprosy is a constitutional affection arising from within, and not originating from external germs. Surgeon-General FRANCIS and Mr. HUTCHINSON both look with favour on dietetic causes as being the source of leprosy. The former advances reasons for believing that the poison is to be found in some leguminous plant, the vegetable-feeding habits of natives, exposing them to such a danger. Still, he also believes that it may arise *de novo*, and sees in the action of depraved blood upon the nervous system an explanation of its phenomena. Mr. HUTCHINSON, as is well known, is the strenuous advocate of the "fish-eating" hypothesis, and he sums up his arguments in support of this with his wonted skill and clearness. This doctrine, which is rejected by those who have had Indian experience, as Sir W. MOORE and Professor CAYLEY, on the ground that leprosy occurs in communities which have neither the opportunity nor the liking for a fish diet, is nevertheless held by Mr. HUTCHINSON with tenacity. For he points out that it is by no means necessary to the truth of his argument that the consumption of bad fish should be large, and that especially in the tropics, where decomposition sets in early; whilst the fact that certain natives have the disease who are bound by their religion not to taste of animal food does not, he thinks, prove that they may not surreptitiously contravene these rules. Although we cannot entirely subscribe to Mr. HUTCHINSON'S doctrine, since the same reasoning might be applicable to almost any article of diet (Professor CAYLEY, for instance, says that *salt* might with equal cogency be accused), yet he has so thoroughly studied the question and has argued it with such ability as to compel attention to this, and indeed the whole food question, in any inquiry that may be made.

Of chief interest, however, stands the subject of the contagiousness of leprosy. Many kinds of opinion on this vexed question are to be found in these pages. Professor CAYLEY has "long been convinced of its contagiousness." Sir W. MOORE thinks there is "no reasonable doubt" upon it, but considers that it requires an abraded skin for its transmission. Surgeon-General BEATSON thinks it may be communicated, but that a certain receptivity on the part of the sufferer is requisite; moreover, he would regard bacteria simply as the carriers of the poison. Dr. BEAVEN RAKE doubts if the case of Father DAMIEN was an instance of contagion, and has never met with an example in all his experience; at the same time he considers the case recorded by Dr. HAWTREY BENSON, where a leprous soldier, on his return to Ireland, communicated the disease to his brother, who occupied the same bed, as one of the strongest instances yet recorded. But Mr. HUTCHINSON truly says that transmission by contagion would hardly be required if leprosy can be proved to be due to food, and he dismisses the argument for contagion based on the disappearance of leprosy from countries where isolation was practised; for he says such isolation must have been imperfect, and many other kinds of disease must often have been admitted into leper houses in olden time. Besides, as mentioned by many, leprosy does not spread to the attendants on the sick. If contagious, it must be so in a very limited way, requiring intimate contact or actual inoculation. Dr. BEAVEN RAKE dwells especially on this subject of inoculation. The alleged "crucial case of the convict KEANU" is, as he says, of less significance when it is considered that the man had leprosy in his family; moreover, experimental inoculations have always failed of result.

The discovery of the bacillus of leprosy might be thought to have advanced the question of its etiology farther than appears from these criticisms, but, as Dr. PATRICK MANSON shows, there is much to learn about this micro-organism and its behaviour in the body. So far it has not been possible to cultivate it outside the body, and until this is effected little advance can be made. Dr. MANSON supplies an ingenious "working hypothesis" of the manner in which the bacillus becomes concealed among the cells of the body, until conditions are favourable to its further evolution. Still, all is hypothetical, and the need for extended bacteriological inquiry was never better shown. The points to be ascertained are well set forth in the memorandum furnished by Dr. PAYNE. Dr. BEAVEN RAKE inclines to the belief that the bacillus may enter the human body after passing through an intermediate host, and thinks that such a hypothesis may account for the rapid spread of the disease in Hawaii and New Caledonia, but (although this opinion would well harmonise with any dietetic cause) he can give no proofs in its support.

Then there is the question of heredity. Some, as Sir W. MOORE, Surgeon-General FRANCIS, and Dr. J. MURRAY, think that this mode of transmission is undoubted. Dr.

BEAVEN RAKE believes that, if it is so, it is very limited, and cites the fact of the Norwegian emigrants to the States, who have not shown any traces of their ancestral malady. But if contagion be admitted, or if any special mode of life or diet be granted as a sufficient cause for the occurrence of leprosy, then inheritance is no longer necessary. It may be, as with tubercle, that what is transmitted is not the actual disease, but only a proclivity towards it, and that such proclivity requires for its development certain external conditions. In point of fact, the problem may be stated in so many ways that it has become a very complex question indeed. Dr. MANSON is not far from the truth in asserting that a wider knowledge of the laws of pathology may be requisite before the problem can be properly approached.

After all, the main problem is, What is the best way of dealing with the disease? Is compulsory isolation essential? Would it be effectual? Would it be practicable? So far the answers to these questions are in the main negative; for although to a certain extent such a measure might mitigate the ravages of the disease in a given locality, yet the mode of enforcing it would be extremely difficult. Mr. HUTCHINSON says that at best it would only be a half-measure, whilst Sir W. MOORE shows how practically impossible it would be to enforce it in its entirety. More, he thinks, is to be done by sanitation and civilisation. Compulsory isolation could alone be justified on the ground of leprosy being solely communicated by contagion. But that there is room for improvement in the foundation and regulation of leper hospitals is very plain, and in these institutions and in leper villages every reasonable precaution might be taken without adding to the troubles of an existence already hard enough to bear. In the memoranda for inquiry suggested by Professor CUNNINGHAM, Dr. RADCLIFFE CROCKER, and Dr. PAYNE there are numerous topics for thorough investigation, so that we may hope that considerable progress will be made in our knowledge of this scourge and the means to be taken for its mitigation from the work just entered on by the committee—a task of great magnitude and intricacy.

AN article from the pen of Mr. HUBBARD, which appears in the *National Review*, draws public attention afresh to the important questions connected with the administration of the Medicine Stamp-tax. The origin of the impost and its financial history are briefly traced, and it is remarked with no little force that, in spite of all the developments of science, occult and mysterious concoctions of drugs play no insignificant part in popular medicines at the present day. This is a state of things which our author frankly accepts, and therein we think that he is right; for however unwise, and even pernicious, the use of nostrums may be, it is certain that the majority of those who use them are not sufficiently accessible to enlightenment to make it worth while to attempt the root and branch extirpation of the practice. Mr. HUBBARD proposes, however, the adoption of a method of discouragement which consists, first, in an augmentation of the medicine licence duty; and, secondly, in the establishment of a public laboratory where preparations intended to be publicly sold as medicines could be analysed, and their sale either sanctioned or prohibited, according to the result of the analysis.

With the main object of this proposal it is needless to say that we cordially sympathise. In speaking of proprietary medicines it is of course necessary to bear constantly in mind that some are perfectly harmless, and some may even be used with advantage in the conditions for which they are recommended. We should not wish, therefore, to be understood as passing upon them an undiscriminating condemnation; but it is clear beyond dispute that a large amount of noxious substance is sold without safeguards and ignorantly administered in this form. The records of the various coroners' courts up and down the country contain abundant evidence of the mischief so arising, and these records could be largely supplemented from the note-books of medical practitioners who are frequently called to attend cases of grave but not fatal disorder arising from this source.

The evil, then, is a great and crying one, which demands a remedy, but the remedy is as certainly very hard to find. The censorship of a public department, however well equipped, is open to serious objection. It would obviously be impossible for the department to do more than ascertain the innocuous character of the compound submitted to analysis. But the fact that a medicine had been passed upon any footing whatever would be seized upon by the vendor as conveying an official certificate of utility for its avowed purpose. As matters at present stand, the mere appearance of a Government stamp upon the bottle or box in which a preparation is sold is constantly put forward by unscrupulous vendors as being equivalent to an official voucher of the excellence of the medicine so sold. When one considers how slender is the ground for this particular misrepresentation, and yet how boldly and effectively it is traded upon, one may well hesitate to recommend the adoption of any form of official recognition. However guarded the terms in which such a recognition might be expressed, it would be tortured into an unqualified recommendation, and would add a most effective shaft to the quiver of the advertising quack.

The other proposal which Mr. HUBBARD puts forward serves equally to illustrate the great difficulty of dealing quite satisfactorily with this question. An addition to the amount of the licence duty would doubtless reduce the number of dealers in patent medicines. But such a reduction in the numbers of the craft would be of advantage chiefly to the craftsmen who remained. Pernicious compounds would still continue to be sold under seductive names and more or less misleading representations, and the trade, though flowing in a narrower channel, would probably make up in briskness for what it had lost in diffusion. The utmost effect, therefore, that it is possible to ascribe to such an expedient would still leave very much to be desired. In short, it seems to us that the sale of proprietary medicines compounded of poisonous ingredients will never be placed on a fully satisfactory footing until it is subjected to regulations conceived very much in the spirit of those which have been imposed by statute upon the sale of other poisonous drugs.

AT the present time, when many invalids and their advisers are beginning to consider the difficult question of the selection of winter quarters, it may not be inopportune

to recall some of those pathological conditions which are a bar to the recommendation of the high altitude stations to the consumptive. In this, as in so many other questions, negative rules are more easily formulated than positive. We can affirm with confidence that certain cases of phthisis are unsuitable to the mountains and are only likely to derive mischief there, while we find more difficulty in defining the classes for whom benefit can with reasonable assurance be predicted. It would, nevertheless, be a great gain if no case were sent to the mountains except those for which experience warrants us in anticipating benefit, and if the notoriously unsuitable cases could be rigorously excluded. Every consultant, however, knows how difficult it is to accomplish even so much as this, and how often his hand is forced by patients who will not receive the truth about their condition, and how they persist in trying an experiment which is only too sure to end in disaster.

The first point to be considered in determining this question is the extent of the pulmonary lesion. We may safely lay down, as a rule without exception, that no case of extensive disease of the lungs is suitable for the mountains. The reason is obvious. The atmospheric conditions and mode of life at high altitudes are all of a nature to stimulate respiration, and throw an additional strain upon the lungs. This can operate beneficially only where the destruction of lung tissue is very limited in amount, and where there is still a sufficient amount of sound tissue to respond to the stimulus thrown upon it. If the lungs be extensively diseased, the conditions of life at high altitudes will probably excite troublesome dyspnœa, prevent out-door exercise, and not only fail to retard the progress of the disease, but not even confer that palliation of symptoms which in advanced stages of phthisis may be expected from a soft and mild climate.

Apart from the extent of the disease, certain constitutional states are contraindications to high altitudes in phthisis. Of these the most important are the rheumatic and gouty conditions, feebleness of the circulation, bronchitis and emphysema, and, lastly, albuminuria. We need have very little hesitation in deciding that no case presenting any of these features can be sent to Davos, St. Moritz, Wiesen, Denver, the Adirondacks, or other high altitude station, with any reasonable prospect of benefit. In most cases the *rationale* of these rules will be obvious on a little reflection. In rheumatism the cold of the Alpine winter is in every way calculated to aggravate the sufferings of the patient who is incapable of active exercise or out-of-door sport, and who at once experiences relief upon exchanging to a warm climate after the rigours of the High Alps. The tendency to cardiac complications in rheumatic patients is another reason for prohibiting them from engaging in vigorous open-air life of exercise and amusement, without which life in the mountains is hardly tolerable, and but little likely to confer benefit. Much the same considerations apply to gouty cases, and the fact that as a class rheumatic and gouty patients are usually (with a considerable number of exceptions) somewhat advanced in years is another reason of their ineligibility for the mountains, senile change being one of the most definite and certain of contraindications.

The condition of the circulation is one of the prime indications always to be kept steadily in view when seeking to determine whether a patient should be recommended to try the high altitudes. A strong circulation is, *cæteris paribus*, an indication for such a trial; a weak circulation one of the clearest of contraindications. Organic heart disease will in nearly every case be a definite bar, and no difficulty will be felt in deciding upon such cases. Much greater difficulty will arise in connexion with cases where there is no cardiac lesion, but only feeble circulatory power. We are apt to take the tension of the pulse as a guide in such a case, but there is good reason for thinking that it is by no means a safe index. Much general physical vigour may apparently coexist with a low tension pulse. Probably in deciding the special question before us—viz., the capacity of the circulation for responding to the strain of high altitudes—our attention had better be directed less to the tension of the pulse than to the obvious evidences of the efficiency or non-efficiency of the circulation, such as the condition of the extremities, proneness to congestions, &c.

Bronchitic and emphysematous patients are on many grounds quite unsuited to the high altitudes. They suffer from dyspnœa at such stations, and are incapable of the requisite degree of activity. The strain thrown upon the respiratory function is sure to accelerate the emphysematous process when that has once begun. Cases of catarrhal phthisis—i.e., cases in which catarrh of the bronchial tubes has preceded the tubercular process—are for similar reasons unlikely to benefit by resort to the mountains, and will probably do better at one of the warm resorts.

Lastly, albuminuric cases should not be sent to the high altitudes. They constitute a very unpromising class at the best, but are likely to get most benefit at warm resorts, where the skin can be kept constantly acting, and where the strain of living is at a minimum. The rigours of an Alpine winter are likely to aggravate the congestions of mucous and serous membranes from which such patients suffer, as well as to intensify the rènal mischief.

The above list of contraindications is a somewhat formidable one, and it is probable that it might be further augmented. It is not now generally believed that hæmorrhage is any contraindication in this matter, but there is more reason for thinking that certain types of dyspepsia—which we can hardly define with exactness—are likely to preclude any benefit from a resort to the mountains. Insomnia, again, is a sign of doubtful indication. In some cases it is distinctly aggravated, in others as distinctly benefited, by a residence at high levels. After all deductions, we may yet affirm that for a certain limited number of cases of early and quiescent phthisis, where the circulatory and digestive systems are fairly efficient, and where there is no bronchial or renal complication, and no rheumatic or gouty history, the high altitudes possess peculiar advantages.

IT is a good sign that the subject of sanitation has been brought prominently before the Church Congress. Few men, next to members of our own profession, have more

opportunity of seeing the plight of the people in their houses and the frequent absence of all sanitary comforts and even decencies than ministers of the Gospel, not only in urban communities, but in retired and country places. They are admitted into the interior of homes and into many social and sanitary secrets little known to the outside world. An earlier recognition of the obligation, on the part of the Church, of sanitation would have greatly increased respect for her among men who now give themselves up mainly to criticising her. The power of prayer and piety would never have been so rudely questioned if they had not been called on to do things they were never meant to do, and which can be done quite well without them. The obligation to remove plagues, which is generally synonymous with the removal of filth or famine, has been far too glibly thrown on the Deity by those who had the means and the duty to remove them both. The neglect of this duty, and the failure to use these means, have excited in the minds of the poor the idea that religion was an impracticable thing, and its professors destitute of sympathy and sincerity. Such papers as that of the Bishop of Bedford, if followed up by signs of practical interest, will tend more than most things to remove this impression. Clergymen of the Church of England have much in their power in this respect. They are in close social contact with the landlords of the poor, who may be sometimes exposed to the temptation of exacting the highest rents for the most inadequate accommodation; some of them are officially connected with, or even presidents of, the sanitary authority of their district, and the bishops of the Church have the power in the House of Lords of directly promoting sanitary legislation for the abatement of nuisances and the multiplication of sanitary conditions in and about dwelling-houses. They can all take, without suspicion of motive, an active interest in the promotion of good sanitary administration in their respective parishes. In so doing they will but imitate Him who "rebuked" fevers and healed all manner of sickness and disease among the people. Dr. BILLING'S paper shows that he is alive to the enormous evils of unhealthy dwellings, deficient in light, air, and water, and in social conveniences. He would supersede cisterns by a constant supply of water, he would compel the consumption of smoke and the provision of mortuaries in every parish, and he would condemn as unfit for habitation those houses from which the light of heaven is excluded. His notion of the commission of the Church is to teach people how to live in the world as well as to prepare for leaving it. These are admirable principles for enunciation in a Church Congress. The need for their practical application was enforced by the Rev. ARTHUR ROBINS and by Dr. ALFRED CARPENTER, who showed that of 721,000 children born in England in 1888, 130,000 had died before its close. But the mere enunciation of these facts in a Congress will not go for much, unless they are pressed home in remote places and in individual arishes. The sacredness of human life is a scriptural doctrine. The command "Thou shalt not kill" is violated by the perpetuation of all removable conditions that are destructive of health. It is to the credit of clergymen of all churches, and notably of the Church of England, that they are placing themselves on the side of all that tends to increase happiness and improve health in the nation.

Annotations.

"Ne quid nimis."

INSANITARY HOUSES.

THE St. Pancras vestry have, it is stated, recently obtained magistrates' orders for the closing of several houses in Somers Town, having found that, owing to the owners being unknown, the empty houses constituted a serious nuisance. The vestry, therefore, repaired the houses and let them, making the expenses a first charge on the rent thus obtained. It will be interesting to compare the results of this procedure with those of the operation of the Housing of the Working Classes Act, under which such houses will be demolished. If vestries find the former method more profitable, it is probable they will adopt it. In a few months' time London should begin to feel the effects of the latter measure. We assume that that portion of Part II. of this Act which relates to individual houses will be administered by the vestries and district boards, the County Council only intervening in particular cases if it should be found that the local authority is negligent; but more doubt attaches to proceedings, which can also be instituted under Part II., in respect of small unhealthy areas. It is open both to vestries and district boards on the one hand, and to the London County Council on the other, to prepare schemes for the improvement of these areas—that is to say, for the demolition of the buildings upon them and for the devotion of the land to some more wholesome purpose. It does not appear to matter to the ratepayer by whom the duty is performed so long as the work is done, and time is not wasted by efforts being made by the one authority to induce the other to proceed. It will be a standing reproach to London if there is further delay in dealing with these conditions, and we shall await with some interest the steps which must be taken to determine this question. It is matter for surprise that advantage has not been taken of Sect. 12 of the Housing of the Working Classes Act, 1885, by persons who dwell in houses the rent of which does not exceed £20 per annum. This section provides that there shall be implied a condition that the house is at the commencement of the holding reasonably fit for human habitation, and as a result, if the inmates were to suffer from ill-health, due to any failure to comply with this requirement, they would be able to recover damages from the owner in a court of law. So far as we know, no such claim has been made under this section.

DEATH CERTIFICATES AND INFANTICIDE.

MOST practitioners can recall occasions when they have had to ask themselves whether, with due regard to attendant circumstances, the customary certificate of the cause of death should or should not be given. The law on the subject, wisely in our opinion, leaves a certain discretionary power in the hands of the medical attendant. What then, let us ask ourselves, are the considerations which ought to guide him in doubtful cases? The answer in general terms comes readily enough. Personal attendance before the death it is evident can alone justify the signing of such a certificate. But this admission brings us to the very edge of the difficulty. What constitutes a satisfactory definition of attendance? Some will tell us that the phrase is tantamount to a certain term of treatment, and it certainly is most satisfactory for all concerned when the conduct of a case has been of sufficient duration to confirm the conclusions arrived at by diagnosis. It is needful to remember, however, at the same time, that a fatal cause is often easily discoverable, and may sometimes be re-

vealed by a single careful inspection. On the other hand, there are cases, and these must especially be watched for, in which the cause which would naturally be blamed appears too trivial to account for the fatal result attributed to it. In these cases it behoves the practitioner to be most circumspect, particularly since there are not infrequently present other suspicious circumstances. In this category must of course be included any instance in which the possibility of poison has been suggested by observation. We would now, however, direct attention specially to a class of cases among young children in which the signs of evil intent on the part of persons present are by no means clear, yet experience has repeatedly proved its existence. Here infant life is the forfeit, and the element of suspicion in connexion with the last illness is usually what we shall call the fact of inconvenience, which commonly means illegitimacy, or the prospect of a small money payment on account of burial insurance. This latter arrangement should certainly be better regulated than it is. Gastro-intestinal symptoms, or mere wasting explained by no definite cause, play a prominent part in such cases. The child is dying not of the "cold," which is its latest ailment, but of long continued and probably methodical neglect and mismanagement of its diet. It is true that sometimes ignorance may have more to do with the result than wilful maltreatment. Still some light will usually be thrown upon the obscurest case by associated circumstances, and the practitioner called to attend an infant dying of some not easily understood digestive trouble in the care of another than its mother or a near relative will very commonly be right in referring the case for the coroner's opinion. We can set no absolute rule, but the fact of grave doubt will always justify such an appeal.

THE SAILORS' CONGRESS.

ON Monday, at Glasgow, the sailors and firemen will hold an International Congress, where several questions relating to health at sea will be discussed. On this subject, Mr. C. H. Leet, F.R.C.S., has been invited to read a paper to the Congress, and we are informed he will also seek to introduce the question for discussion before the Medical Society of Glasgow. The widespread approval which has greeted the publication of our recent report on "Sanitation at Sea" shows that the grievances we brought forward are ripe for discussion, and that there is a general disposition to take them into consideration; so that legislation for the purpose of improving the sanitary condition of ships is now within the domain of practical politics. But the success of all such endeavours must in a great measure depend on the attitude of the seamen themselves. They must display an intelligent interest in their own concerns. The Congress about to meet will afford an excellent opportunity for the men to formulate their desires and describe the precise nature of the abuses from which they suffer. They have evidence enough now to convince them that public sympathy is with them, so far at least as sanitary matters are concerned. We believe also that they may not only count on hygienists as useful allies in their efforts to better the lot of the sailors and firemen, but that the humanitarians in general might well be rallied to the same cause. There is much to be said and much to be done with regard to cattle ships. These are unwholesome by reason of the manure that accumulates on board; the methods adopted are inhumane by reason of the enormous proportion of deaths that occur among the cattle during the Atlantic passage. This is a matter which, sooner or later, we hope to investigate in full detail. Our mission will be to show its influence on public health. Others should deal with the barbaric cruelties that result in bringing over the stormy Atlantic cattle that are crowded together and not properly housed both on and below deck. Sailors must speak out fearlessly on such matters, give their evidence and enlighten public opinion. But in doing this they must be careful to understand what is the public interest in the matter. The nation at large is anxious to maintain a numerous healthy and sober seafaring population. Anything that tends to degrade the seaman, either physically or morally, is injurious to our best national interests, and the nation will therefore support any scheme of just improvement in such respect. Such scheme must not be cramped by any narrow trade interest, but should be based on the broad principle that the fireman and the seaman have as much right to legislative enactments for the protection of their health against the special dangers of their calling as, for instance, the miners who toil below the surface of the earth.

ENTERIC FEVER AT TREHARRIS.

THIS outbreak took place in a locality within the Local Board district of Merthyr Tydfil, and the cause was investigated by Mr. T. J. Dyke. All the thirty-two attacks took place amongst the consumers of milk from one special dairy farm, and at first there seemed suspicion that the cause might lie in the grazing of the cows on land irrigated with sewage. The dates as to such grazing failed, however, in one respect to accounnt for the occurrences of the fever; and Mr. Dyke expressed the opinion, as the result of twenty years' experience of the grazing of sewaged lands, that no disease had been traced to any such source. The cause ultimately assigned was the use for dairy purposes of a water which was found on chemical analysis to be unquestionably polluted. No specific contamination was detected, the pollution being mainly due to soakage from land covered with sheep droppings; and the view as to the origin of the disease would appear to be largely that held by the late Dr. Murchison as to the pythogenic character of this fever.

THE TRAINING OF ASYLUM NURSES.

THE statement that the old order of opinions changes and gives place to new by a gradual process of evolution under able direction perhaps receives no better illustration than from the unobtrusive steady working of the Medico-Psychological Association. At its recent annual meeting the question of the systematic training of attendants in asylums was reported on by a committee of the Association to whom it had been referred. The committee have given great consideration to this difficult problem, and have succeeded in drawing up a curriculum on a rational basis for the training of those whose duty it will be to attend upon the insane. They recommend that a "period of three months' probation be required before the attendant is considered to have formally entered training, and that a period of two years' training and service (including the period of probation) be required before an attendant is allowed to become a candidate for examination. The scheme will embrace the study of text-books, exercises under head and ward attendants, to be arranged at the discretion of the superintendent, clinical instruction in the wards by the medical staff, lectures, demonstrations, and periodical examinations to test the progress of the pupil attendant. The scope of training will comprise the requirements of general nursing of and attendance upon insane patients, the general features of mental disease, and a sufficient knowledge of physiology to enable such nurses to understand the instruction which is to be imparted, and to qualify them to render "first aid" in those cases of injury or accident that may arise in the asylum. Candidates recommended by the superintendent, and who have completed their training, will be examined, and if approved

will receive the certificate of the Association. The qualities of a really good attendant include morality, suitability, and proficiency, and only those persons who can give evidence of those three requirements will be considered eligible. This scheme will do much to elevate in the public esteem those nurses in charge of mental cases who, up to the present, carry out their arduous and dangerous duties without that sympathy and kindly consideration which have been exhibited towards other branches of the nursing profession.

MILK AND TYPHOID FEVER.

DR. VINCENT, physician to the Geneva Board of Health, has just published a careful report on the typhoid epidemic which raged in that city last spring, particularly in the Quartier des Paquis. He succeeded in tracing the outbreak to the milk with which the people in general, and the inhabitants of that quarter especially, were supplied. The most culpably negligent and untidy system of cleansing the milk cans prevailed; indeed, in one extensive dairy he saw a milkman spitting on his hands in order to lubricate them for the scouring process to which he presently subjected the inside of those receptacles. Another source of the mischief was found in the carelessness with which the watering of the milk was practised—any water, pure or impure, being reckoned suitable. He strenuously urges on all who wish to escape the risk of contracting typhoid to boil their milk, and to see it done themselves. Milk sold as already boiled had not, in many cases, according to his experience, been properly boiled at all. The most perfunctory methods of boiling he found in constant practice. The moment the milk began to stir in the boiler and to bubble a little it was regarded as boiling and taken off the fire! Even had the boiling-point been adequately reached, he insists that the milk should still be kept on the fire for some minutes, if it is to be made perfectly innocuous. On the present system he thinks the microbes it is sought to destroy have every chance of surviving and of propagating their kind to increased activity.

ACUTE ANTERIOR POLIOMYELITIS.

OPPORTUNITIES for the examination of the spinal cord in recent cases of poliomyelitis are comparatively so infrequent that every advantage should be taken of them when they do arise. Dr. R. T. Williamson, of the Manchester Royal Infirmary, has published (*Medical Chronicle* for September) a detailed account of such a case, where death occurred suddenly five weeks from the commencement of symptoms. The patient was a young man, twenty-two years old, who first complained of numbness in the right hand, the feeling soon extending to the right leg and the left side, and on the third day being followed by complete paralysis of arms and legs. The knee-jerks were absent. There was no anæsthesia, and the sphincters were not involved. Rapid muscular atrophy then ensued; but he was commencing to regain some power when death occurred. The lesions found by Dr. Williamson in the spinal cord may be thus summarised: In the lumbar region, a patch of cell infiltation in the outer half of each anterior horn, composed of small round leucocyte bodies and large oval or round nucleated cells. At the periphery of the patch the bloodvessels were greatly distended, and their peri-vascular sheaths full of round cells. There were no true hæmorrhages. No nerve-cells were visible in the area which corresponded to the region of the antero-lateral, postero-lateral, and central group of ganglion cells. Such cells still existed in the inner part of the cornu, but those bordering on the patch were shrunken and deformed. The network of nerve fibres was destroyed by the infiltration, but in the white matter no degenerate fibres were seen. The contrast between the anterior and posterior nerve roots was striking. In the former the fibres were scanty, separated by cells and their myelin broken up into fragments, whilst the latter exhibited very slight changes indeed. The dorsal region of the cord showed only slight cell infiltration and vascular distension in the outer part of the anterior horns, where a few nerve cells were shrunken. In the cervical region the changes were much as in the lumbar, but less pronounced. The infiltration, however, here extended rather further in a posterior direction; and, moreover, the lesions were slightly more marked in the left than in the right half. In the filum terminale the vessels were dilated in the anterior horns, and a few nerve cells in the outer part had their processes somewhat obscured. In all parts the changes were most marked at the point of entrance of the antero-lateral artery. Micro-organisms were sought for, but not found. Some degenerate fibres were found in the trunks of the ulnar and sciatic nerves.

THE ACCUSED IN THE DOCK.

OUR contemporary, the *St. James's Gazette*, has recently published an article dealing with the case of Hargan, the soldier, and commenting *inter alia* on the harshness of the law which requires prisoners to stand during the whole of their trial, however long it may last. But our contemporary must here be in error. Our experience is that in all trials which are in any degree protracted the prisoner is allowed to be seated. More especially is this the case when the prisoner is a female, or when there is any physical infirmity, such as lameness. We should be the last to suggest harshness towards anyone, even prisoners, but we fail to see any great harshness in a soldier being required to stand some hours, seeing that this is an exercise to which from usage he must be inured. Are there no other persons besides the accused in the dock who have to stand eight hours a day, or even longer, with only a very short interval for the midday meal? It is only very recently that poor shop girls have been allowed seats, and there is still room for improvement in this respect. It would be interesting to know how many hours a day dispensers at hospitals, at dispensaries, and in shops have to stand, almost without intermission. Learned counsel, too, who are fortunate in being frequently briefed have much standing, and do not complain of it. On the whole, it appears that the grievance alluded to is imaginary rather than real.

AMOUNT OF SUGAR IN BLOOD IN DISEASE.

DR. N. P. TRINKLER recently read before the Kharkoff Medical Society a paper on the Diagnostic Significance of the Quantity of Sugar and Reducing Substances in the Blood, in which he detailed a number of observations he had carried out on patients in Professor Grube's surgical clinic, the majority of whom were suffering from cancer. The blood of some was taken for examination during an operation, that of the rest being only obtained after death. The examination was in all cases made by means of two processes, that of Fehling and Soxhlet and that of Knapp (Knapp's solution consists of cyanide of mercury dissolved in caustic alkali), the mean of the two results being taken. He found that the blood during life always contains less sugar than after death, and that that of persons suffering from cancer contains a larger proportion of sugar and reducing substances than that of healthy persons or of persons suffering from other diseases. Affections of internal organs appeared to be accompanied by a greater percentage of sugar in the blood than diseases of the skin or of external parts. The degree of emaciation produced by cancer did not seem to have any direct effect upon the quantity of sugar in the blood. There did not seem to be any real correspondence

between the amounts of sugar and other reducing substances; the sugar was much more constant in its amount, the quantity of the other reducing substances being liable to very considerable variations. In the observations made on various diseased conditions the following were the amounts of sugar found: Cancer, 0·1678 per cent. to 0·2037 per cent.; typhoid fever, 0·0950 per cent; pneumonia, 0·0943 per cent.; dysentery, 0·0838 per cent.; organic diseases of the heart, 0·0737 per cent.; peritonitis, 0·701 per cent.; phthisis, 0·0653 per cent.; syphilis, 0·0553 per cent; nephritis, 0·0489 per cent.; hæmaturia, 0·0375 per cent.

THE QUESTION OF SHOCK DURING OPERATIONS UNDER ANÆSTHETICS.

A CORRESPONDENT, referring to recent notices of deaths under chloroform, draws attention to the fact that it is expressly stated that in one case deceased was not deeply under when the operation was commenced and completed; whilst, in the other, death occurred before the patient was completely anæsthetised. Many observers have noticed what they regarded as reflex syncope during imperfect anæsthesia, and Dr. Lauder Brunton, we believe, both in his lectures and in his "Pharmacology," laid down that imperfect anæsthesia rendered the patient peculiarly liable to cardiac failure through afference of sensory impressions conveyed from cutaneous or visceral nerves. It is certainly a commonly recognised phenomenon that tying the spermatic cord, handling the intestines and dragging upon intra-abdominal viscera produce, even under chloroform, not only marked variation in the pulse, but also alterations in the rhythm of respiration. During the experiments made by the recent Hyderabad Commission, it will be remembered that no such interference with the heart's action appeared to occur in dogs, at least as far as the Commission were able to reproduce in the lower animals the more complete conditions of the experiment as presented by human beings undergoing an operation under chloroform. In settling this and kindred questions, we shall probably have to recognise as a factor the difference arising from the greater or lesser elaboration of the nervous system in the animals, human or otherwise, under investigation.

EPIDEMIC OF ENTERIC FEVER IN THE TEES DISTRICT.

A VERY serious outbreak of enteric fever has taken place in a number of towns and other places in the district bordering on the River Tees, and the Local Government Board have instructed Dr. Barry to make inquiry into it and to advise the sanitary authorities as to the best means of staying the spread of the epidemic. At an interview which Dr. Barry has had with the Corporation of Darlington, he stated that up to Sept. 20th he had heard of 58 attacks at Darlington, 83 at Middlesbrough, 55 at Stockton, 6 at Eston, 13 at Normanby, 6 at South Stockton, 2 at Kirkleatham, and 11 in the Stockton rural district; 234 in all. The only circumstance that appears to be common to all these localities is the water-supply. All the places referred to except Darlington receive their water from the Tees by means of the works of the Stockton and Middlesbrough Water Company, and Darlington takes its supply independently from the same river. It is also known that above the points of intake the Tees is seriously polluted by the sewage of Barnard Castle and other places, and it is locally believed that the immediate cause of the outbreak was a sudden flush brought about by heavy rainfall. From the advice which Dr. Barry has tendered, it is quite evident that in his mind suspicion attaches strongly to the pollution of the Tees water, for he has recommended that all water and milk should be boiled before they are used for domestic purposes. At Darlington inquiry was made as to whether the Local Government Board would be prepared to undertake a chemical and bacteriological examination of the Tees water. But the natural answer was in the negative. Chemistry would fail to detect any specific contamination, and the connexion between enteric fever and any clearly identified bacillus or other organism is not sufficiently definite to warrant any such experiment in a case where immediate action is needed, and where a negative result would have a misleading tendency of serious import. Besides which, even if chemistry and bacteriology were quite competent to decide on the question of the existence of a definite specific typhoid infection in water, it must be remembered that the absence of any such infection now would be quite worthless as a proof that it did not exist some ten to fourteen days before the epidemic commenced—that is to say, at the date when the poison was received into the system by the people who subsequently sickened. The source of the infection can best be detected by the ordinary methods of etiological research adopted in such cases by those accustomed to public health investigations of a similar character.

ENCOURAGEMENT OF A QUACK BY A MEMBER OF THE BELGIAN MINISTRY.

THE profession in Belgium is indignant that a member of the Government, who when out hunting had the misfortune to sprain his knee, preferred the treatment of a quack bonesetter to that of a qualified man. The bonesetter, after the manner of his race, immedately advertised the fact in the local paper, together with an intimation that he is in the habit of "treating sprains and fractures gratuitously." Unqualified practice being illegal in Belgium, it is probable that the bonesetter frequently lays himself open to a prosecution. The oddest thing about the circumstance is that the illustrious patient was no other than the Minister of Justice.

PROF. DENNIS ON RECURRENT APPENDICITIS.

THE propriety of removing the appendix vermiformis during the intervals of recurrent attacks of appendicitis is the subject of a very carefully written paper by Dr. Fred. S. Dennis, surgeon to Bellevue and St. Vincent's Hospitals, New York, published in the *Medical News*. Dr. Dennis is well known to have large views of the powers of surgery, practised under antiseptic precautions, in the observance of which he is most precise. Nevertheless he decidedly discourages the removal of the appendix in cases of recurrent appendicitis. He maintains that the operation should not be regarded as either easy or trivial. He shows that in the great majority of cases the disease does not recur. In the 11 per cent. in which it does recur, and even in the majority of these, the termination of the disease is in resolution. The other two modes of termination are the formation of pus and the evacuation of the abscess, or in perforation and general peritonitis. The question of the removal of the appendix can only arise in recurrent cases. Dr. Dennis strongly objects to it in the interval of attacks, because he considers it dangerous to the patient, and because, for various reasons, the latter may never again be endangered by the disease. Either the attacks may have destroyed the lumen of the appendix, or have so surrounded the parts by adhesions as to make abscess and even perforation comparatively safe. Even in the emergency of a general peritonitis from perforation laparotomy may save life. In preference to removal of the appendix in the interval of attacks, he would recommend early incision, and, if necessary, excision at an early stage, say, the second or third day, of an actual attack. It is gratifying to find the boldest surgeons, and those most confident in their antiseptic methods, speaking

in terms of warning and conservatism as to unnecessary surgical interference, and especially removal of parts, and we feel sure that Dr. Dennis in these views expresses the general feeling of the best surgeons. The most obvious fact to practitioners is the large number of such cases that resolve and remain permanently quiescent.

THE GENERAL HOSPITAL, BIRMINGHAM.

AT a meeting of the committee of this institution, held on Sept. 26th, a recommendation was adopted, to be laid before the governors, for the removal of the hospital to a new site. In 1889 Miss Ryland left a sum of £25,000, under certain conditions, for the increased accommodation of in-patients, provided that these terms were fulfilled within five years of the bequest. The issues involved are a new site or sites, or partly on the present and partly on a new site or sites, to the satisfaction of three persons named in her will. Much difficulty has been experienced in obtaining a suitable locality for a new hospital, and considerable discussion has taken place as to the best manner in which the wishes of Miss Ryland could be carried out. It is proposed in the scheme to build an entirely new hospital for 300 beds. The sum estimated for this, over and above the bequest mentioned, and the value of the present site, is £70,000, a large demand upon the liberality of the town, but one which there is every reason to think will be met in a manner worthy of the traditions of the great industrial centre whose wants the hospital has admirably ministered to for more than a century.

THE ALLEGED CASE OF CHOLERA IN THE MERSEY.

THE steamship *Picton* arrived in the Mersey from Wilmington, U.S.A., with cotton, on the night of Monday, Sept. 29th. She was visited by Dr. Imlach, the quarantine medical officer, who found one of the crew suffering from diarrhœa of a somewhat suspicious nature. It appeared that he had himself taken four aperient pills, as well as some castor oil given him by the captain, which had caused the diarrhœa. The vessel had, before leaving Wilmington, steamed from Carthagena and other Spanish ports to Baltimore, and from thence to Philadelphia. She afterwards went to Wilmington. Three months have elapsed since she was at Spain, and as the port sanitary authorities were satisfied that the case was not one of cholera, and that there was no cause for any alarm, she was no longer detained, but permitted to go into dock.

CAB LOITERING IN THE STREETS.

PUBLIC attention has not been directed too soon to the increasing difficulty and danger experienced by foot-passengers in our London thoroughfares. The condition of the Strand is a noteworthy example. Those who constantly traverse this great central roadway have noticed the daily, even hourly, obstruction of traffic which is one of its most familiar features. The more observant must also have noticed the fact that it is not the regular traffic alone which must be blamed for this result, but that it is in a very large measure the outcome of an abuse which has been distinctly provided for by the Metropolitan Public Carriage Act. Many of the vehicles which crowd and jostle one another are empty cabs, the drivers of which, regardless alike of convenience and rule, have converted the street into a veritable promenade. This practice may be enterprising and business-like, but it is neither legal nor convenient. The Act already mentioned provides that "no carriage shall ply for hire elsewhere than at the stand or place appointed for this purpose," and a penalty has likewise been attached to the offence of obstructive loitering. It needs but a brief police order, therefore, to bring about a decided thinning of the overgrown street traffic, and it is much to be hoped that this mandate will no longer be withheld.

SCARLATINA WITHOUT PYREXIA.

DR. WERTHEIMER mentions in the *Münchener Medicinische Wochenschrift* a case of scarlatina occurring in a child seven years of age, in whom, though the eruption was well marked, and the tonsils and tongue presented their characteristic appearance, there was absolutely no pyrexia either morning or evening, the highest point reached being 99·6° F. The pulse, however, was rapid, being from 116 to 120 during the first three days. There was no albuminuria; desquamation began on the ninth day. Dr. Wertheimer also mentions a second case occurring in a child of about the same age, where, though all the distinctive signs of scarlatina were present, the only time there was any abnormal temperature was the evening of the second day; then it was 100·6°. Here, too, there was marked rapidity of pulse, and he suggests that this is probably an important sign in diagnosing the rare cases of apyrexial scarlatina. His opinion is confirmed by Dr. Beetz, who immediately after the appearance of the article reported two other apyrexial cases where the pulse was also very rapid.

THE TAXATION OF REVOLVERS.

THE dangerous folly of carrying revolvers was once more illustrated in a case recently tried in the North London Police-court. In this instance a young man, described as being most respectably connected, though without occupation, was accused of threatening to shoot a policeman with whom he had had an altercation. Though he had been drinking he was not intoxicated. A revolver loaded in two chambers was taken from him. The case is exactly typical of its kind, and requires no further explanation to show the hazard and the uselessness of this custom of habitually carrying firearms. Entirely needless for purposes of self-defence, they may become at any angry moment the instruments of hasty and irreparable crime. Another minute and the policeman might have been a corpse and his assailant a foredoomed murderer, all for the sake of a petty difference of opinion. Most persons, we feel sure, will agree with us that the time is overdue for some restrictive measure which will abate this growing nuisance. We would, therefore, advocate once more the imposition of a sufficiently heavy tax upon the possession of these weapons, and of registration in each case of sale. To regulate by such restraints an idle practice and a constant menace to public security implies no injury to, but rather a needful care for, private rights.

LONDON SLAUGHTER-HOUSES AND COWSHEDS.

THE London County Council have issued the usual notification that Oct. 16th had been fixed for hearing applications for licences for slaughter-houses and cowsheds. The St. Pancras Sanitary Committee have decided in the interval to inspect those which are situated within their district, and to oppose the renewal of those licences where there had been wilful neglect on the part of the licensee. It is stated that, as regards the slaughter-houses, many of the licences in the east and north of the parish might be extinguished without causing inconvenience to anyone, as the public abattoirs attached to the Metropolitan Cattle Market at Islington are almost on the boundary of the parish. There is no doubt that many slaughter-houses still exist which are never used, but the owners apply annually for a licence for the reason that its possession increases the saleable value of

the premises. Great changes have in recent years taken place in the meat-supply to London. The slaughter of all animals in the Deptford Meat Market on arrival, and the large supplies of dead meat which are now received into London, have materially affected the use of private slaughter-houses, which, instead of growing with the population, have for some time been actually decreasing. The action of the St. Pancras Sanitary Committee is therefore well timed, and might with advantage be followed by other sanitary authorities in the county.

THE LATE SURGEON-MAJOR C. W. S. DEAKIN, F.R.C.S.

A MEMORIAL BRASS will be shortly erected by his brother officers to the memory of the late Surgeon-Major C. W. S. Deakin, F.R.C.S., I.M.S., in the Station Church, Thelum. This officer, it will be remembered, lost his life from enteric fever in November, 1889. His brilliant surgical powers were well known throughout the provinces of India in which he served, and, had he lived, ought to have led him eventually to a high position in the service. By his early death the members of the Indian Medical Service lost an honest and fearless brother officer, and a surgeon whose powers were of an exceptionally high order.

THE RIVER LEA.

THE attention of the Local Government Board has been directed by a number of inhabitants of West Ham to the foul state of the Channelsea river. This river is nothing more than a small creek connected with the Lea and passing through Stratford, receiving, it is said, at times, sewage from the Leyton outfall, from the West Ham outfall, and from houses on the banks. The Local Government Board will be rendering useful service if they would institute an inquiry into the whole condition of the Lea, and particularly into the sufficiency of the means which are being adopted for the prevention of its pollution. The Lea Conservancy Board appear to be satisfied with the use of black ash waste for treatment of the sewage, but it is open to serious doubt whether so sluggish a stream as the Lea ought to receive any sewage effluent. We trust the memorial of the inhabitants of West Ham will bring about the needed inquiry.

DEATH OF DR. C. HANDFIELD-JONES, F.R.S.

WE regret to record the death of Dr. Charles Handfield-Jones, F.R.S., at his residence, 24, Montagu-square, on the 30th ult., at the age of seventy-two years. For many years he had been Consulting Physician to St. Mary's Hospital, and was the author of several valuable contributions to medical literature. The funeral will take place to-day (Saturday). The procession will leave Montagu-square at half-past ten in the morning for Marylebone Cemetery, East Finchley.

CHOLERA INTELLIGENCE.

ACCORDING to official returns from Spain, 1814 fresh cases of cholera and 959 deaths occurred during the month of September, thus bringing the totals since the beginning of the epidemic up to 4870 attacks with 2516 deaths. There is but little fresh news as to the distribution of the disease in the Peninsula, but it is evident that the city of Valencia is still most severely attacked. At Massowah the epidemic is decreasing; indeed, on the 29th of last month it was regarded as having ceased. No fresh intelligence comes from Aleppo, but quarantine restrictions are maintained and renewed against arrivals from the Gulf of Alexandretta. From a report made to the Russian Government by a physician entrusted with a special mission to Persia, it would appear that cholera is tending to recede from the southern boundary of Russia, such extension as is taking place in that part of Asia being in the direction of Mesopotamia; and it is predicted that its movement is *vid* Van and Bitlis to Mosul and Bagdad. Two rumours of cholera in this country, one in the Port of Liverpool (alluded to at greater length in another column) and one in the St. George's sanitary district, near Bristol, both turned out on inquiry to be mere attacks of so-called English cholera.

THE opening meeting of the ninth session of the West London Medico-Chirurgical Society will take place this day (Friday), at 8 P.M., in the board room of the West London Hospital. The President, Mr. T. G. Alderton, will deliver the introductory address, and Dr. Thudichum will read a paper on Ulcerations and Perforations of the Nasal Septum and Osseous and Soft Palate.

DR. WILLIAM DUNCAN performed total extirpation of the uterus per vaginam on the 22nd ult., for carcinoma of the uterine body, in a woman aged fifty-seven. The patient is progressing uninterruptedly towards recovery. We hope to publish details of the case later on.

IT is reported that two cases of small-pox, supposed to have been imported from Pernambuco, have been received into Southampton Hospital. All the other members of the crew are under medical supervision, and it is not likely that the disease will spread.

WE understand that on the 21st inst. the honorary degree of D.C.L. will be conferred on Surgeon Parke (of the Emin Pasha Relief Expedition) by the University of Durham.

THE death is reported at Sitapur, India, of Surgeon-Major Kyle Cotter. The deceased, who was a native of Cork, died from an attack of cholera on Sept. 22nd.

Abstracts
OF
INTRODUCTORY LECTURES ETC.
DELIVERED AT THE
MEDICAL SCHOOLS OF LONDON
AT THE
Opening of the Session 1890-91.

ST. GEORGE'S HOSPITAL.

INTRODUCTORY ADDRESS BY A. WINTERBOTTOM, F.R.C.S.

THE address opened with a general greeting to all present "as fellow-students," and continued with a short explanatory preface of the lecturer's object in endeavouring to interest his audience in a historical sketch, the subject of which was the "Evolution of Medicine and Surgery as a Science up to the founding of our First College, and the Evolution of St. George's Hospital as a School." But before dealing with this matter Mr. Winterbottom referred to changes and reforms which have taken place at St. George's Hospital during the past year, and laid strong emphasis upon the value of that reform which duplicates the staff of house physicians and house surgeons. He contended that it offered the possibility of an "all-round" advantage, and said: "To the students (and I place what is to their benefit in front, because the welfare of the sick is dependent upon the early training of those who attend them) the advantages are difficult to over-estimate. They can gain in supervision, in careful direction, in particular clinical study and instruction, and in opportunity for individual experience and

research. To the residential staff all these advantages should be even more distinctly emphasised and apparent. To those who seek relief from our hospital the benefits are not merely prospective. The weary waiting in the out-patient room will be immediately relieved, and the business-like phrase 'Continue as before,' after a moment's interview, can be supplemented by some words of encouragement. The in-patient can feel less nervous about questioning the resident officer because 'he is so busy,' when the answer to the question may mean something more than a personal relief, and represent no small factor in the successful treatment of the disease. These are mere sketches of the immediate capabilities of this reform, and but feebly comprehend its complete value as a progressive measure." Mr. Winterbottom then referred to the retirement through ill health of Dr. Gamgee, and to his own appointment as consulting dental surgeon, with Mr. Vasey as a colleague, and offered greeting, in the name of the staff, to Dr. Penrose and to Mr. Henry Albert, the one filling the vacancy due to the retirement of Dr. Gamgee, and the other that due to the appointment of the lecturer to his place among the staff of consultants. In opening the subject of the "Evolution of Medicine and Surgery," Mr. Winterbottom passed over the legendary history of its possible emergence from the depths of mystery and magic, in the time of the early Egyptians and Hindoos, and took as his starting-point the period which has some written history of however doubtful a contemporary value. The first name introduced was that of Æsculapius, once a physician and afterwards a god, whose personal services to evolutionary medicine were represented by his initiating "some form of prescribing." He was succeeded in the practice of his earthly profession by two sons, Machaon and Podalirius, whose names were associated with the early separation between the practice of medicine and that of surgery, the first being distinctly a surgeon, while the second had received from his father "the gift of recognising what was not visible to the eye and tending what could not be healed." The later history of these most ancient practitioners (whose figures form the supporters of the arms of the Royal College of Surgeons) was then traced, and led to the first record of localised bloodletting as a means of cure, and the possibility of the earliest record of a fee for professional services. As unworthy successors of these celebrities, Mr. Winterbottom referred to the sect of charlatans known as "Asclepiads," who associated the practice of priestcraft with that of medicine, and under whose influence any possible development of medical science remained imprisoned for centuries. The value of the tuition of the earlier Greek philosophers was then estimated, up to the date of the revolt of Crotona, when the teachings from the temples practically ceased, and the public practice of medicine was initiated by the public teachings of Metrodorus, B.C. 440 (?). At about the same time Hippocrates appeared on the scene as the father of the medical art and of the character of the physician, as it is now understood, and as the author of the first distinct system of medicine. A disclosure of the broad outlines of this system was followed by a brief discussion upon its particular merits and demerits, after which the great value of the researches of Aristotle, the first "lay" scientist, were considered, and examples of his advancements in anatomy and physiology quoted. Then came a reference to the conquests of Alexander leading to the formation of the famous school of medicine at Pergamus, which was followed by the disastrous effects of the combination of philosophical speculations with medical tuition. After a criticism of the doctrines of the empirics the subject was brought up to the founding of the first Alexandrian school, B.C. 300, by Ptolemy Soter, and the introduction of human dissections—a period intimately associated with the names of Herophilus and Erasistratus. The next few centuries were referred to as periods of stagnation, in which the public discussions of medicine and philosophy led to controversy and speculation, taking the place of continued scientific investigation, until such time as Galen, by his genius and independent teaching, caused all the various sects to become merged in his followers. With the spread of Christianity, medical literature as an aid to medical science rapidly declined, as most of the literary efforts of the immediate successors of Galen in the third and fourth centuries were declared to have been barren. The first revival was undertaken by Oribasius A.D. 326-403, who made a compilation of the works left by the ancient writers; and the second revival, after a relapse, was due to the labours of Aëtius of Armida and Paulus Ægineta. With the name of this last teacher the *requiem* of the earliest school of medicine was sounded, as after his decease no works of any merit appeared to have been written in the Grecian language. Mr. Winterbottom then referred to the birth, death, and results of what is known as the Arabian period of medicine, which included the first establishment of hospitals, and after reflecting upon the hampering influences of the Mahometan laws, passed on to the formation of the various European schools of teaching and to the establishment of the first English college in 1520, known as the Royal College of Physicians of London. The last part of the address, which dealt with the evolution of St. George's as a school, was preceded by a short account of how St. George's as a hospital came to be evolved from Lanesborough House, and opened her doors for the relief of the "sick and lame" on Jan. 1st, 1734. The equipment was then sufficient for the reception of thirty in-patients, but owing to the generosity of the public her accommodating power was exactly doubled before one year had elapsed. The next stage of development included a purchase of the house and adjoining land, and the extension of the building up to a capability of receiving two hundred in-patients. In 1825 the idea of erecting an entirely new building appeared to have been freely ventilated, but it was not until 1829 that sufficient funds were obtained to commence operations. "In 1834, exactly one hundred years after the birth of St. George's the first, with its thirty beds, congratulations were invited upon the birth of St. George's the second, with its three hundred and sixty beds and its Act of Incorporation, which confirmed all its existing rights, and empowered the trustees to hold property to the amount of £20,000 per annum." From about this period the evolution of the school was traced, as St. George's was then admitted to its proper rank among the great metropolitan hospitals, with its laws permitting the visiting staff to have a limited number of pupils who might attend their hospital practice. In 1831 the first series of lectures on medicine, surgery, materia medica, and midwifery was commenced in the theatre attached to the new hospital, then in process of erection; and eighteen years later the several teaching centres were consolidated in Kinerton-street, about a quarter of a mile from St. George's, where the first compact school of the hospital was established. In 1868 the new school with all its additional advantages was opened, and between that date and the present had been greatly developed and improved. The address closed with a tribute of thanks to the numerous benefactors to this school, and gave as representative names those of the four deans connected with it; these were Andrew Barclay, Timothy Holmes, William Wadham, and Thomas Whipham—names which the lecturer declared to be worthy of the most profound respect and affectionate memory of his audience.

MIDDLESEX HOSPITAL.

INTRODUCTORY ADDRESS BY MR. STORER BENNETT.

THE lecturer urged on the old students the importance of taking notes and of constant attendance in the post-mortem room. He said: "The habit of taking notes of interesting clinical cases is in itself an excellent training of the faculty of observation, for in order to describe you must first yourself observe, and you will find these notes, even meagre though they be, will serve in after time to recall to your memory many an interesting case that would otherwise have passed into the limbo of the forgotten. I am sure I need not urge the necessity of constant attendance in the wards; they are so full of interest, and from the cases you there see, many and various as they are, you will imbibe a knowledge of the course and treatment of disease obtained, you scarce know when or how, that in the years to come will never leave you, and which no books alone can ever yield. The habit of gentleness, courtesy, and patience to those committed to your care is but their due, and though it often costs a little self-control—for they may be exacting and unreasonable at times—yet remember they are invalids, and severe or long-continued suffering would render most of us less amiable than now we seem to be. These habits, carefully practised as students, will become so much your nature that they will never leave you, for they will be engrafted in your very being; but think not that they, if neglected now, will come in after years—the worry and the drive of private practice leave no time for cultivating what

at first came almost without effort." In addressing the new students, he trusted they would outdo the deeds of such men as Sir Charles Bell and Moore and Murchison, as Sir John Tomes and Campbell de Morgan. He urged them to "haunt the dissecting room," but at the same time not to neglect attendance on their lectures. It was the fashion nowadays to cry down lectures, and to say that students had too many of them, and that all the information there imparted might be obtained equally from books He did not believe that was true, for though no doubt the books *contained* the information, yet a lecturer who was worthy of the name was not content with merely stating a certain fact and leaving it, but by emphasis and stress he indicated what he considered most important. Where a point was more than usually obscure, the lecturer could, by repetition, and by approaching it now from one aspect and anon from another, so circumvent it that it could not fail to be productive. He remarked: "If you will but work steadily, and not fitfully, through the whole course of your studentship, I can promise that the gentlemen to whom I have just alluded will seem very different to the almost inhuman creatures they are sometimes credited with being." Speaking of the address of the President of the British Medical Association at Birmingham, he said: "Now, while not wishing to deny the undoubted advantages which a thorough training in the languages of ancient Greece and Rome must always yield, yet I cannot help but feel that we have more elegant translations of the best classical compositions than the average Greek or Latin student of eighteen can aspire to be the author of. The study of our own literature, forcible and suggestive as it is, will yield as potent a grasp of language and refinement of expression as is likely to result from the study of the writings in the Greek or Latin tongue. The present century has listened to no finer orator than the late John Bright, whose language and mode of thought were so essentially English; and the works of Shakespeare undoubtedly contain as deep an insight into character, and may rank for nobleness of language with the writings of the finest classic authors of any age whatever. It is, however, urged that the advantage of a classical training is the mental discipline it involves. Now, to my mind, the study of natural science compels such accuracy of observation, such close and subtle reasoning, combined with clearness of expression, as no amount of classic teaching can compare with. And of all the natural sciences for such a purpose chemistry seems pre-eminently the greatest. Year by year this subject becomes more and more important, and many of the greatest advances in scientific medicine are due directly or indirectly to its revelations. Where but to chemistry are we to look for explanations of the complex phenomena of physiology? How but by means of chemistry can we hope to raise prescribing above the opprobrium of mere empiricism? To the revelations of chemistry is due the greatest boon the human race has ever known—the discovery of anæsthetics; for to the labours of Sir Humphry Davy the discovery of the anæsthetic powers of nitrous oxide will be a lasting tribute as long as pain and suffering have existence in the world. The rich harvest of discovery in both synthetic and analytic chemistry in commerce, in the production of new substances or the utilisation of waste ones; the improvement in public health from rendering harmless, and even useful, the sewage and other refuse of our large towns; the benefits to agriculture, and, indeed, to an infinity of purpose, will yield to the earnest student of this science a return in comparison with which the pursuit of classic lore can have no place." He illustrated his statements by reference to Pasteur's researches, and gave an account of the methods he adopted in combating the silkworm disease, and how he had succeeded in showing that both the eggs and worms might be affected without detection, resulting inevitably in a generation of chrysalises incapable of yielding silk. His experiments were conceived and carried out in the truly scientific spirit which characterised the work of this great man. It was difficult at the present time, when the subject of micro-organisms had been so long before us, to appreciate the difficulties which surrounded any such investigation. On his discoveries in fermentation he founded his germ theory of disease, which had done so much within the last few years to throw light on the nature of infectious maladies. Starting with the conception that they were spread by means of putrefactive germs either floating in the air or suspended in water, he proved in many cases—such as anthrax, chicken cholera, &c.—how correct the theory was. Enormous strides had also taken place in our knowledge of cerebral localisation, enabling us to show most brilliant results in what was known as "brain surgery." The vast majority of men of science were lovers of the lower animals, and would not heedlessly inflict on any one of them the slightest pain; but all these brilliant triumphs of modern investigation would have been impossible had the opponents of experiments on living animals had their way, and we should at the present time be as ignorant of the nature of, and therefore as incapable of rendering assistance to, our fellow-men and their friends and servants—the lower animals—as we were a hundred years ago. It would be interesting, did time allow, to investigate more closely these experiments and many others of a like nature, but enough had been said if it induced any of his hearers to follow up the study of chemistry without an accurate knowledge of which these magnificent discoveries would have been impossible.

UNIVERSITY COLLEGE HOSPITAL.

INTRODUCTORY ADDRESS BY DR. THOMAS BARLOW.

IN welcoming the students, the lecturer said the efficiency of medical education had a direct bearing on the lengthening of human life and the diminution of human suffering. Nevertheless, the English public took but a languid interest in its advancement, and that interest was for the most part either sensational or mischievous, and medical education in London owed very little to extrinsic help. It was not merely the immediate care of the sick by young and enthusiastic workers, who were on the *qui vive* to acquire new knowledge as compared with those who work by routine, but in the hospital system there was the gradation of workers, the critical eye of the beginner looking upon the work of his chiefs, his subordinates, and his equals, which told for the patient's good and tended to secure that nothing was left undone that would minister to their welfare. After speaking of the utilisation of senior students in infirmaries, and recognising to the full their helpful work, he offered a few words of friendly counsel to those who had joined the College that day. He asked: "Are there any amongst those whom I now see before me who, fresh from English homes with happy memories, this day embark upon a career in which they will shipwreck their lives? We cannot tell; but rest assured that here at all events you will have the help of an honourable tradition, that you have the example in the history of University College of more than a generation of hard workers, that here you have the best appliances for gaining the special knowledge you need, and, finally, that the temptations to which you will be liable are powerless apart from your own initiative." He then discussed some of the aspects of medical education, and maintained that they would make poor doctors if they did not remain manysided; but they would not become doctors at all if they never learned the power of fixing their attention and developing the will to work. He advocated the writing out of any notes taken in the class, as relieving the intolerable tedium of prolonged reading. Dealing with the curriculum of the first two years, he advocated earnest and thorough ward work, both on the medical and surgical side, and attention to the post-mortem room. Referring to note-taking, he said: "Aim in your own personal notes at giving the account of the patient's illness in the most terse way that is possible. Twenty-two years ago, when I was a student, there was very little cramming at University College. In those days, so far as I know, only two sets of people were crammed—viz, the stupid and the lazy. That is not the case now, for many men who are neither stupid nor idle feel themselves compelled to resort to this mode of artificial alimentation. There may be several reasons for this. Our routine teaching is perhaps not sufficiently catechetical. No doubt the standard of pass examinations in London is decidedly higher than it was." He suggested that if a man was not able to pass at the same period all three branches, he should be referred for the whole examination. If the standard was found to be too high, then it should be lowered. Their knowledge should be real, as people were better educated, and the trained nurse was abroad to trip them up when they made mistakes. In London every student could become a clerk and investigate knowledge for himself in-

stead of receiving it from a feeding bottle. For some years past, from many different quarters, not all of them disinterested, much abuse and disparagement had been cast upon the out-patient department of the hospital system. If imitation was the sincerest form of flattery, they should note the way that their shrewd rivals in the great medical school of the north had quite recently seen the necessity of supplementing their excellent clinical ward teaching by other methods, and they had actually adopted the poor, despised out-patient system of the London school hospitals, and had quite recently made the remarkable innovation of appointing several assistant physicians in order to attend to these departments. After detailing the advantages of this department to students, he said that the reformers ignored the fact that the sifting of the patients under the student's eye was a great part of the educational value of that department, and the so-called trivial cases were often the most instructive. The disentanglement of what was subjective from what was tangible formed one of the processes which would be needed every day in the future of their professional life. He deprecated the revival of the old system of apprenticeship, and concluded by saying: "The youngest of you will soon learn the truth of the Hippocratic maxim that life is short and art is long. Medical education gets more exacting every year, and, as your fathers find out, more costly. Meanwhile the strife for competency, even for livelihood, is becoming more severe. Hard and honest toil will gain its reward in our profession as in other callings, but with us there is no room for trifling. Let us join hands, and work whilst it is called to-day, for believe me the night in which we are told no man can work is not only the night of death, but it is the darkness which comes from broken resolutions, blighted hopes, and wasted opportunities."

WESTMINSTER HOSPITAL.

INTRODUCTORY ADDRESS BY DR. COLCOTT FOX.

AFTER some introductory remarks, Dr. Colcott Fox called on his audience to realise the nature and scope of the calling chosen, for much depended on the spirit in which the life was entered on and pursued, and on the influencing motives. He pointed out the ever-widening sphere of the influence of the science and art of medicine, and showed how she now occupied a place independent of the character and services of particular individuals who practise it. He reviewed the various advantages and disadvantages of the profession, pointed out the necessary qualifications for success, and called on his audience to live up to a high ideal. It was especially desirable, he added, to cultivate humanity whilst they were still students. Passing to the subject of medical education, he said: "In the present age, when happily instruction is so widely diffused throughout the community, and persons of cultivation are to be found in every village, it is surely more than ever undesirable that the doctor should be a man of indifferent general attainments. In the past he has advanced claims to be considered a member of one of the learned professions, and it would be most disastrous if in the future medical men did not possess an ample share of liberal culture. Doubtless the old classification of the professions is in a great measure out of date, and we cannot hope to include amongst those who actively practise their calling very many who are also conspicuous for their erudition or attainments in subjects outside their own art: but let us hope the day is far distant when liberal culture and taste will no longer permeate the profession, and when we shall be unable to point out large numbers of our members whose bent and opportunities and industry have enabled them to cultivate their minds in a very high degree. The social standing, in the best sense and from the best causes, and the standard of the professional acquirements of the medical man, have shown remarkable improvement. Our profession has fully shared in the general national advance, and whether we regard the present untrammelled position and aims of medicine as a science and art, the possession and use of medical knowledge, the liberal culture and tastes of its members, the social standing they acquire by their character and accomplishments, or the prominence and importance of the field in which they labour, there is much cause for congratulation and thankfulness. One cannot help being struck with the tone and bearing and superior education of those from whom the ranks of the profession are now recruited. That the doctor should be a man of wide general culture is not only advisable for the fuller exercise of his special knowledge, but is necessary for the maintenance of that position in the social scale which it is good he should hold. But, further, the doctor's lot is cast in circumstances that afford him immeasurable opportunities of being the trusted friend and wise counsellor in numberless and divers matters. He has with some reason been called the Father Confessor of the nineteenth century. He carries with him the key which opens the door of every house and every heart; and has he not corresponding responsibilities and facilities for giving the wise counsel and offering the ripe judgment that is sure to be eagerly sought?" With regard to the early training in languages, Dr. Fox said it must be recognised that the ancient Greek and Latin authors were no longer the only source of a liberal culture, nor in these times was there the same pressing necessity for a knowledge of those tongues in the acquisition of medical knowledge. "A knowledge of French and German language is very useful, nay, even necessary, to many medical men; it is looked for as an accomplishment of all cultivated Englishmen. The paramount importance of an education in science, the amount of time that could be allotted to it, and the facilities for such instruction, were then dealt with. It is most desirable, he said, that such an education in the arts and sciences should be completed before the student arrived at the hospital stage, and this was one of the advantages of a curriculum at one of the universities. But whilst fully admitting the disadvantage in which the London student is placed in comparison with those at other educational centres, and earnestly looking for a remedy, he should deplore any solution of the difficulty which, on the one hand, tended to lessen the beneficent influence of the University of London, or, on the other hand, encouraged students to seek a degree of an inferior type. Many of the regulations of the University of London have proved most disastrous, and the scope of the examinations themselves may admit of judicious alterations." After speaking of the enormous improvements in medical education in recent years and the excellent recent recommendations of the General Medical Council, he spoke of specialism. It was a deplorable outcome of the spirit of exclusiveness, conservatism, and want of foresight formerly pervading the older hospitals that those who presided over the management should have so long failed to appreciate the inevitable tendency of the age to the development of so-called specialism. It was unfortunate that they failed to recognise in good time its resistless growth, and direct the movements in proper channels. Continuing, he said: "I venture to say that the establishment of the special departments has enormously increased the educational facilities of the hospitals, not to speak of the benefit to the sick. Much remains, however, to be done. It is imperative in these times, when the ever-increasing volume of medical education taxes to the utmost the capacities of the student and teacher, that each general hospital should contain, as far as possible, within its walls all the recognised specialities, thoroughly well organised and presided over by a competent head, so that the student can come to his task with the certainty of finding what he wants collected together in the most convenient manner, and under the best possible conditions for the acquisition of knowledge. I think many have not yet realised the far-reaching changes going on around us in the altered provision for the sick poor, and deeply affecting the old general hospitals. I allude to the multiplication of special hospitals, to the establishment of fever hospitals, and the development of the Poor-law infirmaries. If the importance of the general hospitals as the great educational centres is to be maintained, there will have to be in the future far more organisation of teaching and combination between the various institutions. Notwithstanding the vast increase of work, necessitated by the multiplication of patients, the more detailed attention given to each case, and the elaborate investigation into the causes and the alleviation of disease, the staff appointments at the general hospitals have not grown in number to any considerable extent. Yet the number of medical men of the highest attainments and capacity who qualify year by year are increasingly great. These men drift away to other scenes, but I cannot but think that the talents and power of work of many might be advantageously utilised for the advance of medicine in the enormous fields of work supplied

by the London hospitals. I would advocate more elasticity in our hospital system, and should like to see all the senior members of the staff, surrounded by their skilled assistants, engaged in the investigation of disease. Would it not also be one way of meeting the reproach levelled at the hospital authorities that the medical out-patients' work is insufficiently performed. I should like also to refer to another matter which has been forced on my attention by a visit to Hôpital St. Louis. The extraordinarily realistic representations of disease in wax modelling, the admiration of all who see them; and I refer now not so much to the beautiful reproductions of skin disease as to M. Pean's surgical collection. How infinitely better are they in many respects than faded specimens in spirit. It would be difficult perhaps for the poorer school to afford this luxury, but surely the Royal College of Surgeons might take the matter up and help their poorer brethren. Wax modellers of the greatest merit have existed in this country before, and money is all that is needed to supply the deficiency again." Dr. Fox then concluded with words of exhortation and advice to the students for the better running of the race that was set before them.

PRISON STATISTICS.

THE crop of reports by various prison authorities, which ripens at the present season of the year, conveys on the present occasion a very pleasant impression that the improvement in respect of criminality, which has been traceable in these records for many years past, continues at the present time with unabated strength. The case is stated with characteristic humour by the General Prisons' Board of Ireland, a body which has the oversight in that country both of the local and convict prisons, and has recently been considering a proposal for the building of a new public works prison. This, they say, having regard to the number of prisoners subject to their jurisdiction, has become quite impracticable; first, because the amount of prison labour available for the purpose is not sufficient for the completion of the work within a reasonable time, and in the second place because, "at the present rate of decline in the number of convicts, by the time the buildings were complete there would be but a very small number available to inhabit it." The statistical fact to which this light-hearted allusion is made is by no means peculiar to Ireland. Perhaps it is a little optimistic to look forward to a time when there will be but a small number of persons "available to inhabit" our prisons, but it is a striking and most gratifying fact that, in spite of the growth of population in Great Britain during the past twelve years, the prison population has during the same period declined, by a steady and continuous process of diminution, by one-third of the whole number in 1878. Moreover, the significance of this fact is heightened by the circumstance that a commensurate reduction has occurred in the number of persons known or suspected by the police to be habitual criminals, so that the present low rate of crime may with much reason be attributed to the operation of those moral and material influences which "make for righteousness."

In respect of the general health of the prisoners, all the reports concur in remarking that the death-rate has been very low, and the effect of the influenza epidemic scarcely perceptible.

The English Commissioners refer with very justifiable pride to the case of the Shrewsbury Prison, recently rebuilt under their auspices. Here typhoid fever had become endemic, and was not displaced even by a complete renovation of the system of water-supply. The authorities in these circumstances took the strong and proper course of rebuilding, all other expedients having failed; and this year they have the satisfaction of recording that this radical remedy has had the desired effect, and that since the work was completed the prisoners have been entirely free from the maladies resulting from imperfect sanitation.

There are two points both of capital importance in the theory of crime and its repression to which the Commissioners refer, but, as it seems to us, only inadequately, in their report. The first of these relates to the identification of criminals, and the second to their physique. By way of illustrating the English system of identification the preface to the register of habitual criminals for 1889 is reprinted in the present report. From this it appears that only persons who have been convicted more than once, and against whom a previous conviction has been proved on the second trial, are admitted to the register. Furthermore, the descriptions given appear to be very inadequate, depending chiefly on the discovery of distinctive marks, such as scars, for instance, upon the person. This is evidently one of the "things which they do better in France," and we should have been glad to gather that the English authorities had the adoption of some surer and completer system of identification under discussion. Upon the question of the criminal's physique also they seem to have been content with very vague and unmeaning generalities. "As to the physical and mental capacity of the frequently convicted prisoners, seven governors consider them to be of a low and inferior type, either physically or mentally, or both; and eight say that they are generally strong, healthy, and intelligent, with the notable exception of the drunkards and vagrants, who are either physically or mentally considered to be of a low standard." This short paragraph contains all that the Commissioners contribute to what is perhaps the most important discussion connected with their work. In acknowledging the very painstaking way in which their report has been prepared and its high value considered as a whole, we must with reluctance make a reservation on this point, and add that we hope that future reports will go further in the direction of elucidating this profoundly interesting and important topic, and in particular that the Commissioners will not be content with vague expressions of opinion by the governors, but will obtain definite medical data on the authority of the medical officers of their prisons.

THE EFFECT OF BIRTH-RATE UPON DEATH-RATE.

ACCURATELY speaking, the birth-rate can have no real effect upon the death-rate except by its influence upon the age constitution of the population on which both rates are calculated. It is, however, an obvious fact that the death-rate of a population depends to a very great extent upon the proportions in which such population consists of persons living at ages when the normal rate of mortality is high, and of persons living at other ages when the rate is low. It requires no special knowledge of vital statistics to arrive at the conclusion that a high birth-rate means a high proportion of children in the population, and that a low birth-rate implies on the other hand a low proportion of children. Hence the continual reassertion of the old fallacy that a high birth-rate causes a high death-rate and *vice versâ*. This fallacy arises from a too partial knowledge of the effect of varying birth-rates upon the age constitution of a population. A well-marked, and therefore useful, example of this fallacy occurred recently in an article by a correspondent in *The Times* on French and English mortality. The writer of the article asserted that under equal sanitary conditions the death-rate in France ought to be considerably lower than that in England, because the mean birth-rate in France is only 23 per 1000, whereas in England it is 31 per 1000, and added: "Consequently, there are less children of an age when the mortality is greatest." It is quite true that the birth-rate in France is remarkably low (indeed, scarcely higher than the death-rate); and it is equally true that, as a consequence of this low birth-rate, the proportion of children in the French population is abnormally low. In England and Wales 136 of every 1000 of the enumerated population in 1881 were children under five years; while the French census in the same year showed only 92 of each 1000 to be children of these ages. *The Times* correspondent would appear not to be aware that the death-rate among persons aged upwards of sixty years exceeds that among children under the age of five years. The English Life Table (No. 3), constructed by Dr. Farr, shows the annual death-rate of persons aged upwards of sixty years to be 71·7 per 1000, against 65·7 among children aged under five years. It is, moreover, a fact that the disproportion of persons aged upwards of sixty years in England and France is much greater than that of children. While 1000 of the English population contained in 1881 only

74 persons aged upwards of sixty years, 1000 of the French population contained 123 persons at these ages. Thus the proportion of young children and elderly persons (all liable to high death-rates), taken together, was 209 per 1000 in England and 215 in France. It follows, therefore, that the age distribution of the French population is not favourable to the French death-rate, as *The Times* correspondent asserts. Indeed, if the true effect of the different age constitution of the English and French populations be carefully calculated, it will be found that, all other conditions being equal, the French death-rate would exceed the English rate by 1·3 per 1000. It is well noted, however, in the article under notice, that in the five years ending 1888 the French recorded death-rate was 22·3 per 1000, while the English recorded rate was only 18·9 per 1000, showing a difference of 3·4, of which only rather more than a third can be attributed to the effect of different age constitution. French mortality statistics are at present very defective, especially in the matter of causes of death, but such statistics as are published point conclusively to a sanitary condition, especially in towns, far inferior to that which now prevails in this country. Although the birth-rate in France is low, the death-rate of children is excessive; and so far as information is available, exceptionally high death-rates from diphtheria, enteric fever, diarrhœal diseases, and small-pox prevail very generally in the urban population, of which alone statistics of causes of death are at present published.

THE MILITARY EXHIBITION.

IN the department of the Military Exhibition devoted to illustrating the method of aiding the wounded, and of conveying them from the fighting lines to the various stations and hospitals until they are finally deposited within the "base hospital," a very lucid idea of this part of the work of the Army Medical Service may be gained. The walls of the room are painted to represent the battle-field, beneath which are seen figures demonstrating the mode of removing the wounded from the line of fire to the waggons which are to convey them to the dressing station. An embankment of earth, previously dug up, is utilised as a protection to the wounded soldiers. One vehicle, which is capable of holding four patients in the sitting posture, is occupied by two wounded soldiers. By removing the centre-boards of this waggon two stretchers can be suspended, one on each side of the waggon. A well-executed group represents some wounded soldiers, who have been temporarily attended to, lying in different postures prepared for and awaiting their removal to the dressing station. The dressing station at the Exhibition is of course represented on a scale commensurate with the building, and is supposed to be placed some 2000 yards from the firing line, and in the most convenient position out of the line of fire. Medical officers are seen attending further to the wounded, and preparing them for removal if possible to the field hospital. Of course, this station is fitted up with all the appliances necessary for dressing severe wounds. From this station the patients who are well enough are removed by ambulance waggons and other means to the field hospital. The next group represents a waggon which has just been brought down with wounded soldiers from the dressing station. The patients are placed there on stretchers, and remain in this hospital (the movable field hospital, as it is otherwise called) until an opportunity presents itself for their removal to the base hospital, or until they are in a fit state to be removed. Many, however, are too ill to be removed at once to the rear. Camels and elephants are seen carrying stores and appliances to the wounded. An arrangement called the "Camel Crate," capable of carrying four men in the sitting position or two in the prone position, is exhibited. One of the most instructive things to be seen in this department is the ordinary field kitchen, which can be thrown up in a very few minutes and utilised for cooking purposes at the field hospital. A large supply of medical stores, including valuable instruments, splints, and a full medical armamentaria, is provided here. An Ashantee hammock for one wounded man is also exhibited. The tents comprising the hospital are lighted by lanterns. In order to show the line of communication to the base hospital, directing staff guides are placed with arrows pointing the way. We next arrive at the "base hospital," which is represented on account of the exigencies of space by only one-half of an ordinary service marquee. In actual warfare, of course, the base hospital would consist of a great number of such marquees, each having four small ventilators and two large ones in the roof on each side. To carry the patients here, an example is given of how ordinary railway goods waggons can be made use of for conveying the wounded by means of stretchers slung on ropes. Each waggon can be used to carry eight persons. This part of the Military Exhibition brings very vividly before the mind the character of the work performed by this branch of the public service. There is no place in the whole route, from the fore-front of the battle down to the base hospital, where the services of the medical officers are not held in high requisition. We venture to think such services cannot fail to be much appreciated by those on whose behalf they are exercised.

The Exhibits.—Among the more important exhibits we notice the Maignen Filtre Rapide. The export type of this filter has been sealed at Woolwich for the use of the army. It claims to be better than the other types exhibited by the firm, in point of speed, efficiency, ease of manipulation, and for home uses. Various types of filters are shown in working order, with the view of demonstrating by practical chemical tests what is claimed for them. The water-softening apparatus is particularly worthy of notice. The action of the apparatus will be demonstrated on request. Three pocket filters are shown at work. The Silicated Carbon Filter Company also exhibit many specimens. An interesting exhibit is to be seen at the Eiffel Automatic Aeration Company's stall. A machine capable of bottling thirty dozen bottles of aerated water per hour, at an expense not exceeding one penny per dozen, worked by a boy, and small enough to be placed in any home, is likely to commend itself to the authorities of hospitals and such institutions. Almost a whole side of one room of the Exhibition buildings is devoted to ranges and stoves and cooking apparatus of all kinds. We may mention the "Fortress" range and the "Challenge" range exhibited by William Poore and Company as being worthy of the attention of visitors. The Marsh Greenall gas-heating stoves are exhibited in working order and in various forms. Greenall of Manchester also exhibits his steam washer which was awarded the prize medal at the Sanitary Exhibition at Brighton. It is a combination of a boiler and a washing machine, no set copper of the old and cumbrous style being required. Its principle consists in utilising the expansive force obtained by the conversion of water into steam. Its compactness renders it particularly useful for field or hospital use. Hancock of Dudley exhibits means of cooking by dry steam; and ranges and stoves for coal and gas are exhibited by Yates, Haywood, and Co., of Rotherham. A peculiar cooking instrument, known as the "Yankee Idea," is exhibited by Poore and Co. It consists of a series of boilers arranged one above the other. The lowest of all contains water, which, when converted into steam, is conveyed to each superimposed boiler by means of a tube. Each compartment is fitted with a valve, on closing which the steam is shut off from the chamber. By this "steam cooker" a whole dinner may be cooked at once. The "Wilmot Tea Urn" is a neat and useful article. The principle it embodies consists of having a concentrated infusion of tea in a jar separated from the urn itself. Water only is contained in the urn, but a patent tap draws from the vessel containing the infusion and from the urn itself tea and water simultaneously, in a definite proportion. The tea and coffee dispensed by this apparatus are kept quite cold until mixed with the water. Bicycles and tricycles in large numbers and of general excellency are exhibited by many firms, the Coventry Machinists' Company having a specially good show. Hillman, Herbert, and Cooper exhibit their "Premier" military safety as supplied to the Royal Marines, Royal Irish Rifles, and other cycle corps. The machine is specially fitted for rough work, and can be arranged to carry either a gun or fishing-rod. Many others were shown illustrating the extent to which cycles may be used in military tactics.

Among the preparations exhibited, dispensed, and extolled by the various attendants may be mentioned the cocoa of Van Houten, "Bovril," and a species of beef extract known as "Vivo," prepared by Pearson of Liverpool. A selection of prepared soups and a preparation called "Gravina" for making gravies are shown at King's

stall. The "frame food" preparations are shown. The prepared powder, which is said to contain over 10 per cent. of wheat phosphates, is served in various forms, from "frame food porridge" to "frame food jelly" and "drink syrup." Florador and powdered milk are both represented. Beare, Gosnell, and Fry of Southwark-street exhibit an extract of coffee called "Distil," the means employed in the manufacture of which are said to cause the complete rejection of those ingredients which are considered deleterious; its portable form makes it suitable for bodies of men in camp or on the march. The same firm show a special pure Ceylon tea, exhibited in an attractive form and at popular prices.

BURIAL REFORM.

A MEETING of the Church of England Funeral, Burial, and Mourning Reform Association is to be held in Gloucester, in the mayor's parlour, on Oct. 17th, the Lord Bishop of the diocese presiding. Two of the three resolutions which are to be moved are distinctly of a sanitary character, and are therefore deserving of the serious notice of all sanitarians. The first is, "That the true principle for the disposal of the dead body lies in providing against its becoming injurious to the living, and that the body when buried should be enclosed in a perishable coffin and laid into suitable and sufficient earth." The thorough soundness of this principle, its common sense, reason, and perfect adaptation to the present time and circumstances must commend itself to all who have at heart due reverence for the dead and due regard also to the health of the living. The second resolution is also a very reasonable one, and is this: "That the accompanying memorial be presented to the Government—'That your memorialists respectfully urge that steps be taken for the concentratien in the Local Government Board of the authority over burial places now divided between that board and the Home Office.'" Whether this be feasible or not we cannot say. The Acts of Parliament which regulate the various metropolitan and provincial cemeteries are very numerous and variable. Undoubtedly some greater approach to uniformity in their management might be and ought to be made. But everything connected with the disposal of the dead is closely bound up with popular sentiment, and must not be hastily disturbed; any legislation must be conceived and carried out most cautiously. The refusal to bury a body in a family vault beneath a church has caused much grief to surviving relatives, although such burial cannot be defended, and it is much to be regretted that in the case of the late lamented Canon Liddon a better example was not set. The burial of the body of this eminent divine in a grave in some picturesque churchyard or suburban cemetery would have been more in accordance with the words of the Prayer Book, the law of the land, and the laws of sanitation, than its entombment (burial it cannot be called) beneath the Cathedral in which he preached so eloquently. Charles Kingsley's remains might have been entombed similarly in Westminster Abbey, but in accordance with his own wish they were laid in a simple grave in Eversley churchyard. The third resolution to be moved at Gloucester is, "That it is desirable that the objects of this society be brought more prominently to the notice of the working classes by holding open-air meetings and the adoption of other suitable means to effect that purpose, and to this end an effort be made to increase the annual assured income of the Society." Though there are very few persons who do not thoroughly agree with its objects, there is unfortunately a great deal of that same indifference which formerly allowed our churches to become vast charnel houses, with large numbers of bodies, in all stages of decomposition, putrefying in the vaults beneath; while churchyards were filled and refilled with dead to an extent shocking to read or even think of. All this is ancient history, but the evil has assumed another form little less serious. Our cemeteries contain bodies numbering hundreds of thousands, many only partly buried, being merely entombed in strong coffins and vaults to become sources of danger to the living sooner or later, coughs and colds being by no means the only complaints caught at funerals. Hundreds, even thousands, of acres of valuable land have in recent years been absorbed into use as cemeteries, and the cry still is that more are required. Burial reform must not only be theoretical, it must be practical. The Prince of Wales, with that sagacity which he has always shown in every matter of social improvement, has expressed an opinion in favour of the more perfect disposal of the dead. It is the duty of every one, from the highest to the lowest, to support by example and precept the excellent work of the Burial Reform Association.

SEWAGE IRRIGATION.

ONE result of the recent Sanitary Congress at Brighton has been to bring once more into prominence the question of the disposal of sewage, which has recently been somewhat in abeyance. Contentment with the present methods of dealing with the vast amount of sewage of London has become almost a necessity, from the fact that no better system has yet been suggested. Big proposals are receiving the serious consideration of the authorities, it is true, and these proposals are all more or less in favour of the disposal of sewage on the land, but no practical issue has been broached. Sanitary experts for some time past have thought that water and air alone, or treatment with chemicals, are utterly incompetent to deal with the sewage of densely populated towns. These processes not only fail to deal with it so as to render it of value to agriculture, but fail to grapple with it as a nuisance. And once again attention is directed to the soil as a possible means of bringing about a satisfactory solution of the complicated problem. Dr. Poore, in his able address to the Congress (an abstract of which appears in our issue of Sept. 13th), gave a remarkable account of the properties of "the living earth"—properties which he contends are of prime importance to the sanitarian. He is convinced—and his experience in such matters is by no means small—that in our sanitary arrangements we have not sufficiently distinguished between the living mould of the surface and the dead earth of the subsoil. The living mould is our only efficient scavenger, and is enriched by what it cleanses; our only efficient filter, which offers an impassable barrier to infective particles, and affords a sure protection to our surface wells. The only thing necessary is tillage, in order to keep the soil healthy, and its capacity for disposing of sewage matters unimpaired. Well-cultivated soil, producing good crops, has never yet been proved to be a source of danger to health. Micro-organisms which exist in the soil in large numbers are very active in producing changes in organic matter added to the soil, usually in the direction of oxidation. If the soil be sterilised by heat or by any other means, it is no longer capable of producing any chemical change in organic matter. Dr. Poore concludes that sanitation is a purely agricultural and biological question, and neither an engineering nor a chemical one. As if to support Dr. Poore's arguments, Dr. Carpenter followed at the Congress with an address on the sanitation of Brighton, in which he suggested that the time was not far distant when the Legislature would think it part of its duty to prohibit the practice of throwing into the sea material absolutely necessary for the provision of the food of the people. Conveyed to the Downs north of Brighton this material would produce crops that would be from five to ten times more abundant than they are at present. If the sewage of the town were transferred to the surface of some of the comparatively barren hills which lie to the north and north-east of Brighton, there would be provided ten or even twenty times the amount of milk now forthcoming from these particular districts.

Sewage irrigation at Croydon in view of these results must be pronounced a success; but, as we pointed out in a leading article which appeared in THE LANCET, of June 27th, 1886, p. 1127, not every town is as favourably situated as Croydon. Dr. Carpenter has reasonably said that sewage should be applied to the soil before important putrefactive changes have taken place, otherwise there is a loss of nitrogen. And when it is proposed to deal with London's sewage by irrigation, it should not be forgotten that the sewage must of necessity travel a great way before it can reach the soil.

THE OPENING OF THE SESSION.

DISTRIBUTION OF PRIZES, RÉUNIONS, ETC.

THE following is a record of the festivities which have been held in the metropolis in connexion with the opening of the medical schools.

CHARING-CROSS HOSPITAL.

The annual dinner of the past and present students of this hospital was held at the Holborn Restaurant on the evening of Friday, when J. W. Taylor, Esq., F.R.C.S., presided. In consequence of the larger number of students now year by year joining the school, it has been considered desirable to increase the accommodation for practical instruction. The adjoining premises have been acquired, and on the space thus gained there have been erected new buildings, including physiological and pathological laboratories, materia medica museum, and anatomical theatre. The existing dissecting room and the chemical theatre have been enlarged.

GUY'S HOSPITAL MEDICAL SCHOOL.

The session at Guy's was opened by the usual meeting of the Pupils' Physical Society, at which Dr. Wilks presided. A paper on "Medical Work in the North" was read by G. A. Wright, Esq., of Manchester. The meeting was preceded by a house dinner of the Students' Club, in the dining hall of the new college, at which about 160 members were present, including the treasurer of the hospital, Sir Henry Peek, and most of the members of the staff. After the meeting of the Physical Society, which was attended by a large number of past and present students, the president of the Society held a reception in the rooms of the Students' Club. There was an exhibition of photographs and drawings made by the students during the past year, and of surgical and scientific instruments and dental appliances. The gymnasium recently presented to the hospital by Dr. Pavy attracted much attention; its formal opening will take place on Wednesday next, at 3.30 P.M.

KING'S COLLEGE HOSPITAL.

Owing to very extensive structural alterations at King's College no inaugural address was delivered on Oct. 1st. The chemical laboratory has been considerably extended, and three new laboratories have been constructed for surgical pathology, forensic medicine, and the new chair of neuro-pathology. An electrical laboratory, the result of a munificent donation of £6000 from Lady Siemens, is in course of construction, but the alterations involved are such that there is little prospect of its completion before Christmas. In place of the inaugural address, a very successful dinner of old students of the hospital and their friends was held at Limmer's Hotel, under the presidency of Professor William Rose. Over eighty had announced their intention of being present, and the numbers actually attending fell very little short of those expected. Among the speakers were the Rev. Dr. Wace, the Principal of the College and Chairman of the Hospital Committee, Dr. Kent Spender, Dr. Allfrey, Dr. Symes Thompson, Surgeon-Major Black, Dr. Playfair, Dr. Duffin, Dr. Curnow, and Mr. Twining. Reference was made to the opening of a new ward of fifteen beds, which now complete the hospital service of 218 beds.

LONDON HOSPITAL.

At this hospital a new wing, embracing the following improvements, is now in process of building:—(1) a new operating theatre to accommodate 200 students, with anæsthetising and surgeons' rooms adjoining; (2) a clinical theatre to sit 150; (3) enlarged receiving and examining rooms, with a covered approach to the hospital; (4) a new chapel; (5) a waiting room, lavatory, and cloak room for students; (6) increased accommodation for the resident medical officers. The foundation stone of the new wing was laid on May 20th, 1890, by H.R.H. the Duke of Cambridge, the president of the hospital. This addition to the building will place the administrative part of the hospital in a very effective position, and will greatly facilitate the efficient teaching of clinical medicine and surgery. In the college which was recently rebuilt the only important improvement is a complete set of new bookcases for the library, the gift of members of the staff and others.

ST. MARY'S HOSPITAL.

The annual dinner was held in the evening in the Whitehall Rooms, Hôtel Métropole, Dr. Lees, one of the physicians to the hospital, in the chair. Among the guests, who numbered over 100, may be mentioned Professor Humphry, F.R.S., of Cambridge, and Dr. Gaskell, F.R.S. The proceedings were of an interesting nature. The customary toasts and speeches, enlivened with songs and instrumental music, brought a pleasant evening to a close.

MIDDLESEX HOSPITAL.

The introductory address was followed by the distribution of prizes by C. Kegan Paul, Esq., M.A., who, in an address on "Lay Opinion of the Medical Profession," said: "In asking a layman to perform this office, you virtually assert that you desire to obliterate class differences, and that, even if we speak on technical matters, the educated and the ignorant may meet for awhile on common ground. It was not always so with the medical profession." After calling attention to the different types of faces and heads in every one of the learned professions, he went on to describe what the outside public expected to find in a medical man, and counselled his hearers to practise that courtesy, gentleness, and firmness which help to make up the true man, and especially to avoid that habit of gossiping, which does more than anything else to destroy a patient's faith in his doctor. Their duties to the outside world could only be rightly performed in so far as they were rightly performed to themselves. To aim at a high ideal was always noble, even if they failed to attain to it. The report of the Dean (Mr. Pearce Gould) showed a most successful year. The gold medal and scholarship in anatomy was gained by Mr. T. Carwardine, at the recent intermediate examination in medicine of the University of London. The large number of students showed the increasing popularity of this flourishing school, while the large number of successes afforded ample proof of the thoroughness with which the whole staff of lecturers performed their important duties. A large number of the past and present students dined in the evening at the Holborn Restaurant, under the presidency of Dr. D. W. Finlay. Several of the toasts were drunk with great enthusiasm, and some excellent singing enlivened the evening. Mr. Ganz, as usual, presided at the piano, and an enjoyable evening was spent.

ST. THOMAS'S HOSPITAL.

Sir Frederick Pollock distributed the prizes, and, after congratulating the winners, he warned the students against pretending to think they would all be Sydenhams or Astley Coopers. The future of medical science, however, was in their hands. First-rate work, however, depended on a high average of professional knowledge and work being maintained by all, and not merely by the eminent members of the profession. To the public the competence of the average practitioner was of more importance than the brilliance of the eminent few. In medicine as in law—perhaps even more so—the great mass of useful work is and must be relatively obscure, done by those who do not aim at greatness, or, at any rate, have not yet achieved it, for those who have to take such advice as is at hand, and to trust mainly to the general warranty of competence given by the professional qualification, apart from any individual reputation. Professional education is of at least as much importance to the public as to the profession itself, yet there is no subject on which there is less general interest or knowledge. Medicine, however, is better off than law, for only a minority even of lawyers know or care anything about legal education. Sir Frederick next spoke of the proper relation of general literary and scientific education to the special training of a profession. He declined to regard the elements of natural science (including physiology) as part of a special training at all, though the backwardness of our schools in this respect causes elementary science still to be regarded as a speciality. Broadly speaking, the more general culture a man can get before he begins to specialise the better he will specialise afterwards. Premature specialisation is a danger of our time, and has perhaps been encouraged by excessive specialising of studies and honours at the Universities themselves. It is inevitable that Greek should become a speciality of literature and scholarship. One would be sorry to see Latin disappear from the requirements of liberal professions. Still, if it be found that it cannot be effectually acquired, better no Latin

than a pretence of it. Every man who has abilities, means, and time to secure a general University training before taking up medicine (or any other special profession) should be strongly advised to do so. In the evening the annual dinner was held at the Holborn Restaurant at half-past six, O. C. Maurice, Esq., of Reading in the chair. This was the first occasion on which the dinner had been held away from the hospital, the change to another room being necessitated by the increase in number of those wishing to attend the festival. There was a large attendance of past and present students, and the chairman was cordially received. After the usual loyal toasts Mr. Maurice proposed the Navy, the Army, and reserved forces, to which Surgeons S. C. B. Robinson and Whiston, A M.D., replied. Mr. Maurice proposed the toast of St. Thomas's Hospital, which was replied to by the treasurer of the hospital, Mr. Wainewright. Mr. Armstrong proposed the health of the Chairman. The treasurer proposed the Medical School, to which Mr. Nettleship, the dean of the school, replied. "The Old Students" toast was proposed by Sir W. Mac Cormac and Dr. Clapton, and Dr. H. R. Hutton responded. Mr. B. Pitts proposed the hon. secretaries, to which Dr. H. P. Hawkins and Mr. H. B. Robinson replied. During the evening songs were given by Dr. Hadden, Dr. Nichol, and Mr. Ware.

UNIVERSITY COLLEGE HOSPITAL.

The annual dinner was held on Wednesday, Oct. 1st, in the General Library of University College. Charles J. Hare, Esq., M.D., took the chair, and was supported by about 140 old and present students of the institution. Among these there were Dr. Russell Reynolds, Sir Wm. Roberts, Dr. Geo. Harley, Dr. Grailly Hewitt, Brigade-Surgeon Scriven, the members of the present staff of the hospital, and many other good friends of the College. After the customary loyal toasts, the Chairman proposed in eloquent terms "Success to University College." He regretted the absence of the President (Mr. Erichsen), from whom he read a congratulatory telegram. He referred to the grand impetus which University College had given to medical education, and claimed that if other medical schools were on an equality with it at the present time, it was because they had adopted methods which were first advocated at this institution. He reminded his hearers that it was at University College that clinical lectures worthy of the name were first instituted. He referred briefly to the celebrated teachers of his own student days, and spoke in glowing terms of the services which one of the old students of the College, Sir Joseph Lister, had rendered to mankind. He referred to the fact that it was at University College that ether was first used as an anæsthetic in this country. Dr. Russell Reynolds responded in appropriate terms. Sir William Roberts then proposed the health of the Chairman, which was drunk with musical honours, and Dr. Hare replied. The speeches were alternated with several excellent songs by Drs. F. C. Roberts and P. D. Turner, and the proceedings shortly afterwards terminated.

During the autumn vacation a pathological laboratory has been constructed, consisting of a large class-room for practical work in pathology, morbid anatomy, and bacteriology, two research rooms for workers in original investigation, one fitted with benches &c., suitable for recording apparatus and all experiments requiring special accommodation, the other fitted as a preparing room, principally for microscopical and bacteriological research, while in addition there is a large photographic room, fitted for preparing developing negatives, and finally, there is a special room for animals. The class-room embodies all recent improvements in practical work, including sinks, gas, and water for each student, large incubators &c. A special feature in the teaching of this department has been for several years the projection on a whitened surface on the wall of micro-photographs, both low and high power, of all specimens of morbid anatomy, so that the student should have before him a true picture or diagram (because a photograph) of what he sees under the microscope. This is provided for by the whole of the wall facing the work benches being smoothed and whitened, while a limelight lantern projects the photographs upon it in a ten-foot disc. The laboratory is connected with high pressure water-supply for motors &c., and a collection of typical macroscopic and bacteriological specimens is being formed to provide for private study and research. The arrangements here described have been carried out under the direct personal superintendence of Professor Victor Horsley.

LIST OF PRIZES AT THE LONDON MEDICAL SCHOOLS.

THE following is a list of the prizes &c. awarded for the sessions 1889–90.

ST. BARTHOLOMEW'S HOSPITAL.—Lawrence scholarship and gold medal, H. A. Powell; Brackenbury medical scholarship, F. Johnson; Brackenbury surgical scholarship, R. C. Bailey; senior scholarship in anatomy, physiology, and chemistry, H. Armstead. Open scholarships in science, chemistry, and physics, W. H. Pollard; biology and physiology, H. J. Paterson; junior, S. S. F. Blackman and F. Fraser, equal. Preliminary scientific exhibition, W. E. Lee. Jeaffreson exhibition, R. V. Gilmour. Kirkes scholarship and gold medal, C. E. Williams. Bentley prize (surgical), R. Brown. Hichens prize, B. H. Leumann. Wix prize, J. C. Baker. Harvey prize, J. S. Sloane, D. W. Collings, B. Collyer, S. E. Gill, W. N. Soden. Sir George Burrow's prize, C. R. Stevens. Skynner prize, E. P. Paton. Practical anatomy (junior): Treasurer's prize, A. C. Gurney, H. B. Meakin, P. E. Adams, S. Cornish, W. Wyllys, R. H. Wilkin, P. C. Barford, G. G. Oakley, F. Fraser and T. W. W. Burges (equal), and W. C. Lee. Practical anatomy (senior): Foster prize, J. S. Sloane, B. Collyer, W. N. Soden, A. H. Buck, E. S. Humphry and C. N. Walsh (equal), J. O. March, H. B. Maingay and A. F. Stevens (equal), and J. H. Collyns. Shuter scholarship, J. Attlee. Junior scholarships, A. C. Gurney and F. Fraser. Junior scholarships in chemistry (1889), W. N. Soden, and B. Collyer and H. A. Andrews (equal).

CHARING-CROSS HOSPITAL.—Llewellyn scholarship, certificate and £25, H. S. Baker; Golding scholarship, certificate and £15, G. H. Hooper; Governors' clinical gold medal, J. B. Williams; the Pereira prize, certificate and £5, J. Busfield. Anatomy, Senior: Prize, T. H. Symons; certificates, H. E. Oldfield and N. R. J. Rainier. Anatomy, Junior: Prize, W. Escombe; certificates, E. B. Jones and H. A. Madge. Physiology, Senior: Prize, G. H. Hooper; certificates, W. R. Barrett and E. Brown. Physiology, Junior: Prize, W. T. White; certificate (*proxime accessit*), T. Coysh and W. J. Robertson; certificates, W. F. Henley, and W. Escombe, E. B. Jones, and P. J. Probyn (equal). Practical Physiology: Prize, G. H. Hooper; certificate, E. J. Rowbotham. Chemistry: Prize, E. B. Jones; certificates, P. J. Probyn, G. Dalton, and W. J. Robertson. Practical Chemistry: Prize, G. H. Hooper; certificates, T. Sandells, W. T. White, and N. R. J. Rainier (equal), T. Coysh, H. A. Madge, W. C. Hayward, H. H. Woods, W. F. Henley and J. W. Willson (equal), E. J. Rowbotham and E. J. Eedle (equal), C. J. Allin, and E. S. Lovell-Lovell. Medicine: Prize, A. W. W. Hoffman and W. S. Mercer (equal); certificates, G. T. Bishop, J. Busfield, B. S. Foulds, and R. D. Muir. Practical Medicine (Summer): Prize, A. W. W. Hoffman; certificate (*proxime accessit*), H. W. J. Cook; certificates, W. M. Palmer, and H. J. F. Badcock and J. P. Oliver (equal). Practical Medicine (winter): Prize, J. Busfield; certificates, A. W. W. Hoffman, M. B. Foster and W. S. Mercer (equal), R. D. Muir, and W. B. Mason. Surgery: Prize, J. Busfield; certificates, W. S. Mercer, H. W. J. Cook, and C. C. Jeffery, W. B. Mason, W. M. Palmer, and F. B. Rockstro (equal). Minor Surgery: Prize, A. G. Ince; certificates, W. T. White, C. H. Russell, and E. E. Willis. Therapeutics: Prize, J. Busfield; certificate, J. B. Williams. Materia Medica: Prize, W. M. Palmer; certificate (*proxime accessit*), S. F. Cheeseman; certificates, R. F. S. Wallace, H. A. Madge, E. E. Willis, H. S. Oliver, J. W. Willson, T. H. Symons, A. W. Denny, and E. S. Lovell-Lovell. Midwifery: Prize, J. Busfield; certificate, B. S. Foulds. Forensic Medicine: Prize, J. Busfield; certificate (*proxime accessit*), W. M. Palmer; certificate, H. S. Baker. Pathology: Prize, H. W. J. Cook; certificates, W. M. Palmer and W. S. Mercer. Dental Surgery: First prize, certificate, and £6 6s., W. May; second prize, certificate, and £4 4s., T. Coysh; certificate, C. Schelling.

ST. GEORGE'S HOSPITAL.—Pollock prize in physiology, S. Russell Wells. Acland prize in clinical medicine, G. E. Hale. Brodie prize in clinical surgery, C. Wild. Sir C. Clarke's prize, J. W. Dickson. William Brown £100 exhibition, H. Higgins. Treasurer's prize, G. E. Hale. Thompson medal, C. Wild. First year general proficiency prize, G. A. Clarkson. Second year general proficiency prize, H. Scott-Elliott.

GUY'S HOSPITAL. — The Treasurer's gold medal for clinical medicine, Arthur Ellis Durham; John Henry Bryant, *proxime accessit*; the Treasurer's gold medal for clinical surgery, Frederick William Hall; Gurney Hoare prize of £25 for clinical study, Robert Devereux Mothersole; Beaney prize of 30 guineas for pathology, John Fawcett; Golding Bird prize of £20 and medal, Thomas George Stevens; Michael Harris prize of £10 for anatomy, Robert Henry Ritchie; the Arthur Durham prizes of £20 for dissection—first year's students, Henry William Collier; second year's students, John Beresford Leathes; fourth year's students, Bertram Whewell Hogarth, first prize, £25; John Henry Bryant, second prize, £10. Open scholarships in arts, William Sampson Handley, 100 guineas; John Robert Steinhauser, 50 guineas. Open scholarships in science, John Alexander Howard, 125 guineas; Arthur Henry Leete, 50 guineas.

KING'S COLLEGE.—Warneford endowment: Thomas Grigor Brodie Mansfield Knox Soutter, prizes. Leathes endowment: William Robert Smith, Thomas Grigor Brodie, prizes. Anatomy: Arthur Robert MacGregor, prize; Harold Julius Jager, Herbert Cumming French, certificates of honour. Physiology: Herbert Willoughby Lyle, prize. Chemistry: Edwin Sly, prize. Medicine: John Joseph Waddelow, prize; William Robert Smith, Eric Law Pritchard, certificates of honour. Surgery: Mansfield Knox Soutter, prize; Eric Law Pritchard, John Joseph Waddelow, special prize. Clinical Surgery: Samuel Herbert Perry, prize; George Ramsay, certificate of honour. Comparative Anatomy and Zoology: Alexander Somerled M'Sorley, Paul Cunningham Tribe, equal, prizes. Tanner Prize for Obstetric Medicine: John Joseph Waddelow, prize. Forensic Medicine: William Robert Smith, prize, Alfred Fadelle, certificate of honour. Materia Medica: Edwin Sly, prize. Todd Prize for Clinical Medicine: Arthur Whitfield, prize. Hygiene: Sigesmund Henry Rentzsch, prize. Obstetric Medicine: John Joseph Waddelow, prize.

LONDON HOSPITAL.—Entrance Science Scholarships, instituted 1875, given for proficiency in the subjects required for the Preliminary Scientific M.B. Examination at the University of London: £60 scholarship, C. P. Harris; £40 scholarship, G. H. Cowen. Buxton Scholar-

ships, given for proficiency in the subjects required for the Preliminary Examinations: £30 scholarship, O. O. Williams; £20 scholarship, E. F. G. Tucker. Clinical Medicine: £20 scholarship, given jointly by the House Committee and the Medical Council, F. J. W. Porter; honorary certificate, A. H. Smith. Clinical Surgery: £20 scholarship, given jointly by the House Committee and the Medical Council, F. J. W. Porter; honorary certificates, F. R. Riley, A. H. Smith, equal. Clinical Obstetrics: £20 scholarship, given jointly by the House Committee and the Medical Council, F. R. Riley; honorary certificate, C. S. Hawkes. Letheby Prize: £30 prize for proficiency in chemistry, R. G. Kirton; honorary certificate, H. G. Felkin. Anatomy, Physiology, and Chemistry: £25 scholarship, given by the Medical Council, H. L. Barnard; honorary certificate, H. G. Felkin. Anatomy and Physiology: £20 scholarship, given by the Medical Council, H. E. B. Porter; honorary certificate, G. H. Cowen. Dressers' Prizes, for zeal, efficiency, and knowledge of Minor Surgery, given by the House Committee: £5 prizes, H. L. Barnard and A. Strange. Practical Anatomy Prizes: £6 prize, H. L. Barnard; £3 prize, A. Strange; £3 prize, J. W. W. Stanton; £2 prize, J. G. Scheurer; £2 prize, R. G. Kirton.

LONDON SCHOOL OF MEDICINE FOR WOMEN. — Winter Session, 1889–90.—Physiology: Prize, Miss Piercy; certificates, Miss Murdock, Miss Buchanan, Miss Bale, Miss Corthorn, Miss Weir, and Miss Leslie. Chemistry: Prize, Miss Dodson. Organic Chemistry: Prize, Mrs. Rye; certificates, Miss Jones, Miss Howell, and Miss Moffett. Anatomy (first year): Prize, Miss Howell; certificates, Miss Moffett, Mrs. Greaves, Miss Boyle, Miss Harding, Miss Dodson, Miss E. Knight, Miss Corthorn, Miss Hughes, and Miss Caine. Anatomy (second year): Prize, Miss Piercy; certificates, Miss Bayle, Miss Jones, Mrs. Rye, Miss Armitage, Miss Nicholas, and Miss Murdock. Medicine: Prize, Miss Longbottom; certificates, Miss Pace, Miss Farrer and Miss M'Laren (equal), Miss Russell and Miss Arnott (equal), Miss Tribe, Miss J. B. Henderson, Miss Madgshon, Miss Berthon, and Miss E. Harris. Midwifery and Gynæcology: First Prize, Miss Tribe; second prize, Miss Madgshon; certificates, Miss Longbottom, Miss Berthon and Miss M. Sturge (equal), Miss M'Laren and Miss Russell (equal), Miss Porter, Miss Pace, Miss Staley and Miss J. B. Henderson (equal), Miss Gordon, Miss Arnott, Miss Farrer, Miss Wheeler, Miss Boardman, Miss Cooper, Miss E. M. Harris, and Miss Dove. Operative Midwifery: Prize of five guineas given by Mr. Wood, Miss Madgshon; certificates, Miss Dove, Miss Farrer, and Miss Cooper. Summer Session, 1890.—Materia Medica and Pharmacology: Prize, Miss Jones; certificates, Miss Bale and Mrs. Rye (equal), Miss Gray and Miss Murdock (equal). Practical Chemistry, Inorganic: Prize, Miss Kénion; certificates, Miss Leney, Miss Dodson, Miss Harding, and Miss Bowlby and Miss Rawlinson (equal). Practical Chemistry, Organic: Prize, Miss Howell; certificates, Miss Moffett, Miss Corthorn, Miss S. Hughes, Miss Caine, and Miss Swatman. Practical Histology: Prize, Miss Howell; certificates, Miss Moffett, Miss E. Knight, Miss Caine, and Miss Corthorn. Pathology: Prize, Miss Wood; certificates, Miss Aldrich-Blake, Miss Shaw, and Miss Anderson. No certificate is given under 66 per cent. of marks. Entrance Scholarships, October, 1889, awarded to Miss Bennett and Miss Moffett. Dufferin Scholarship, Miss Arnott. Helen Prideaux Memorial Prize, Miss Adela M'Culloch Knight, M.B.Lond.

LONDON SCHOOL OF DENTAL SURGERY.—Saunders scholars. — T. Coysh, A. C. Gask, and W. May. Ash's prize (given by Messrs. Ash and Sons), E. R. Bull; second prize (given by school), W. May; certificate, A. C. Gask. Class prizes, Winter Session, 1889–90.—Mechanical Dentistry: First prize, T. Coysh, C. Schelling; certificates, W. May, C. F. Badcock, E. R. Bull. Metallurgy: First prize, A. C. Gask; second prize, C. Schelling; certificates, C. F. Badcock, E. R. Bull. Prize in Operative Dental Surgery: First prize, W. May; second prize, E. H. L. Briault; certificates, C. Schelling, M. Woolf. Class prizes, Summer Session, 1890.—Dental Surgery: First prize, T. Coysh, A. C. Gask; certificates, W. May, E. R. Bull, C. J. Allin, L. C. Tomlyn, C. F. Badcock. Dental Anatomy: First prize, W. May; second prize, T. Coysh; certificates, E. R. Bull, C. F. Badcock. Students' Society prize, M. Woolf.

ST. MARY'S HOSPITAL.—Entrance Scholarship in Natural Science of 50 guineas (1889): A. E. Wilson, H. J. K. Bamfield, A. Stanley, and A. W. Sanders. Exhibition in Natural Science of £25 (1889): E. Morgan. University Entrance Scholarship of 50 guineas (1889): E. A. Shaw, B.A., and A. Senior, B.A. Epsom Scholarship of value of £105 (1889): H. J. Lawrence. Classical Scholarship of value of £50 (1890): E. G. Mayo. Summer Session, 1889.—Second Year: Midwifery: N. E. Norway, prize; H. G. Lane-Pryce and E. A. Nathan, certificates of honour. Medical Jurisprudence: J. H. C. Goodwin, prize; S. G. Felce and N. E. Norway, certificates of honour. First Year.—Materia Medica: C. T. Parsons, prize; H. S. Collier and F. J. Poynton (equal), C. B. Hall and P. D. Fethers (equal), certificates of honour. Botany: Prize not awarded: A. A. Martin, R. B. Allen, and R. Corfe, certificates of honour. Practical Chemistry: R. Il de Sars, prize; E. Callender, H. C. Venis, G. W. Brabyn, W. Gardner, and G. Riddick, certificates of honour. Histology: C. T. Parsons, prize; H. S. Collier and F. J. Poynton (equal)' certificates of honour. Winter Session, 1889-90.—Third Year—Medicine: V. W. Low, prize; N. E. Norway and H. F. S. Nunes, certificates of honour. Surgery: J. O. Symes, prize; G. E. C. Pritchard, certificate of honour. Practical Surgery: S. G. Felce, prize; E. A. Nathan, J. Summerhayes, and J. O. Symes, certificates of honour. Pathology: G. E. C. Pritchard, prize; V. W. Low, certificate of honour. Third and Fourth Years—Clinical Medicine: G. Garrard, prize; L. E. Parkhurst, B.A., certificate of honour. Clinical Surgery: E. J. Steegmann, prize; E. A. Nathan (*proxime accessit*) and J. Broadbent, B.A., certificates of honour. Prize in Ophthalmology of £10 10s.: W. J. Foster; ditto, F. J. Stephenson. Pathology Scholarships: G. Wilkinson and H. F. Mantell, prizes; ditto, V. W. Low and N. E. Norway, prizes. Second Year.—Anatomy: J. L. Morton, prize; F. J. Poynton, C. T. Parsons, and J. S. Collier, certificates of honour. Physiology: C. T. Parsons and F. J. Poynton (equal), prizes; J. S. Collier and J. L. Morton, certificates of honour. First Year.—Anatomy: A. E. Wilson, prize; E. Morgan (*proxime accessit*), W. C. Wood, C. D. Lindsey, R. Corfe, and H. J. Lawrence, certificates of honour. Physiology: A. A. Martin and A. Stanley (equal), prizes; E. Morgan and A. E. Wilson (equal), certificates of honour. Chemistry: F. Chown and E. Joscelyne (equal), prizes; C. D. Lindsey and W. C. Wood (equal), certificates of honour. Special Prizes, 1889.—Students of first year: For general proficiency in Anatomy, Physiology, Materia Medica, and Chemistry, J. S. Collier. Students of second year: For general proficiency in Anatomy, Physiology, Midwifery, and Medical Jurisprudence, no award. Students of third year: For general proficiency in Medicine, Surgery, Pathology, and Operative Surgery, L. Rogers. Prosectors, J. S. Collier and O. C. Maurice.

MIDDLESEX HOSPITAL. — Broderip Scholarships, for the best examination at the bedside and in the post-mortem room.—A. E. Atkinson, P. G. Garrett, equal. Governor's prize, T. T. Cockill. Exhibition in Anatomy, first year, R. A. Young, C. H. Watson, *proxime accessit*. Medicine: C. E. Soulby. Surgery: W. H. S. Fosbery. Practical Medicine and Therapeutics: T. T. Cockill. Practical Surgery: C. E. Soulby. Practical Midwifery: H. W. Gibson. Anatomy: A. E. Bodington. Physiology: A. E. Bodington. Chemistry: R. A. Young. Hetley Prize: A. Lawson. Lyell Medal: T. T. Cockill. Dissections: W. F. Lucas. Pathological Anatomy: W. H. Morgan. Midwifery: E. H. Williams. Forensic Medicine: H. W. S. Fosbery. Materia Medica: H. Fox, J. F. Sarjeant, equal. Practical Chemistry: A. Baldwin. Practical Physiology: R. A. Young. Entrance Scholarships: First, R. A. Young; second, W. T. Pugh. Certificates of honour, in order of merit—Medicine: F. H. Alderson, P. G. Garrett. Practical Surgery: T. T. Cockill, A. Lawson, equal; F. H. Alderson, G. W. Barber, H. S. Covernton. Anatomy: W. F. Lucas, H. C. Thomson, F. E. Rock, equal; A. E. Shepherd, B. W. Nankivell, M. W. W. Curtis. Physiology: H. C. Thomson, M. W. W. Curtis, F. E. Rock. Practical Medicine: T. E. Lloyd. Pathological Anatomy: H. W. Gibson. E. H. Williams. Midwifery: H. W. Gibson Practical Midwifery: W. H. Kendall, G. W. Barber. Materia Medica: F. L. Dodd, A. Baldwin. Practical Chemistry: J. F. Sarjeant, L. A. Williams, equal; W. W. Pearse, A. K. M. Curtis, A. S. Barrow, C. H. Watson, equal; H. J. W. Barlee, W. Way, E. D. J. O'Malley. Practical Physiology: C. H. Watson.

NATIONAL DENTAL HOSPITAL AND COLLEGE, Great Portland-street.—Rymer Gold Medal, value £5 5s., Mr. J. N. Dunlop. Dental Anatomy: Mr. Faro and Mr. J. N. Dunlop, equal. Dental Mechanics: Mr. Keele. Dental Metallurgy: Mr. A. Moore. Dental Surgery: Mr. Dunlop. Students' Society Prize: Mr. Faro. Certificates were also awarded in each of the competitions, as well as in certain minor examinations held in various subjects.

ST. THOMAS'S HOSPITAL.—For Summer Session, 1889.—First-year's students: E. Smith, college prize, £15, and certificate of honour; E. M. Hainworth, college prize, £10, and certificate of honour; W. Redpath, G. J. Arnold, E. Miskin, K. B. J. Vickers, H. M. Moore, and A. R. O. Milton, certificates of honour. Second-year's students: W. B. Winston, college prize, £15, and certificate of honour; W. G. Sutcliffe, college prize, £10, and certificate of honour; W. P. Purvis and C. Latter, certificates of honour. Third-year's students: A. King, college prize, £15, and certificate of honour; W. H. Millar, college prize, £10, and certificate of honour. For Winter Session, 1889–90:—Entrance Science Scholarships: T. G. Nicholson, scholarship, 125 guineas, and certificate of honour; A. E. Russell, scholarship, £60, and certificate of honour First-year's students: S. W. F. Richardson, the William Tite Scholarship, £27 10s., and certificate of honour; A. E. Russell, college prize, £20, and certificate of honour; L. J. Miskin, college prize, £10, and certificate of honour; H. W. Harding, T. G. Nicholson, E. A. Saunders, G. R. Harcourt, A. E. Thorp, and W. D. Knocker, certificates of honour. Second-year's students: C. Planck, the Peacock Scholarship, £38 10s., and certificate of honour: E. Smith, college prize, £20, and certificate of honour; W. G. Sutcliffe, college prize, £10, and certificate of honour; E. M. Hainworth, C. L. B. Stares, and J. W. Hewett, certificates of honour. Third-year's students: J. H. Fisher, college prize, £20, with second tenure of the Musgrove Scholarship, and certificate of honour; C. S. Wallace, college prize, £15, and certificate of honour; H. Simpson, college prize, £10, and certificate of honour; A. M. Campbell, A. Banks, and C. S. Jaffé, certificates of honour. For Summer Session, 1890.—First-year's students: A. E. Russell, college prize, £15, and certificate of honour; S. W. F. Richardson, college prize, £10, and certificate of honour; T. G. Nicholson, H. W. Harding, L. J. Miskin, G. R. Harcourt, and E. A. Saunders, certificates of honour. Second-year's students: E. Miskin, college prize, £15, and certificate of honour; C. Planck, college prize, £10, and certificate of honour. Third-year's students: J. H. Fisher, college prize, £15, and certificate of honour; A. Banks, college prize, £10, and certificate of honour; H. Simpson, certificate of honour. Certificates of Honour.—Prosectors: E. M. Hainworth, J. W. Hewett, C. Planck, E. Smith, C. L. B. Stares, and W. G. Sutcliffe. Assistants in Physiological Laboratory: A. Banks, H. J. Frederick, W. P. Purvis, G. J. Arnold, and W. Redpath. Pathological Assistants: A. Dalzell and W. B. Winston. House Physicians and Assistant House Physicians: T. P. Cowen, F. C. Abbott, F. E. Forward, S. G. Toller, M. H. Spencer (non-resident), and L. Corbett (ditto), house physicians; W. B. de Jersey and T. H. Dickson, assistant house physicians. House Surgeons and Assistant House Surgeons: H. G. Turney, A. N. Boycott, H. H. Hulbert, F. R. S. Milton, T. W. Lambert, T. P. Cowen, G. E. Anson, and H. Gervis, house surgeons; F. R. S. Milton, H. C. Bristowe, G. E. Anson, H. Gervis, T. P. Cowen, A. F. Stabb, A. C. Lankester, and J. H. Dewhurst, assistant house surgeons. Resident Accoucheurs and Senior Obstetric Clerks: F. Fawssett, G. R. Anderson, G. E. Anson, and A. N. Boycott, resident accoucheurs; H. B. Oaburn and Harold Low, senior obstetric clerks. Clinical Assistants in the Special Departments: W. G. Laws, C. F. Harford-Battersby, and A. E. Prest Hughes, Eye; T. W. Lambert and S. H. Jones, Skin; W. F. Manners, Throat; R. Lake and G. H. Wickham, Ear. Medals.—Practical Medicine: W. W. Stabb, the Mead Medal, founded by Mr. and Mrs. Newman Smith; J. J. Perkins, special mention and certificate of honour. Surgery and Surgical Anatomy: T. H. Kellock, the Cheselden Medal, founded by the late Mr. George Vaughan; D. F. Shearer, special mention and certificate of honour; T. H. Haydon, certificate of honour. Reports of Surgical Cases: C. Wyman, Solly Medal and prize, £20. For general proficiency and good conduct: A. King, the Treasurer's gold medal.

UNIVERSITY COLLEGE, LONDON. — Entrance Exhibitions: £100, E. E. Murray; £60, C. H. Dissent. Atchison Scholarship (£60 per annum, for two years): Divided between A. Griffith and Herbert Tilley, equal. Atkinson Morley Scholarship (£45 per annum, for three years): T. L. Pennell. Bruce medals, equal: G. F. Blacker and Herbert Tilley. Physiology.—Senior Class (Theoretical and Practical): Prizes, equal, B. L. Abrahams and M. Randall; certificates, 3*, equal, J. L. Bunch and F. W. Wesley. Second Class: E. J. Smyth, C. G. Spencer, and G. A. Stephens. Third Class: A. H. P. Dawnay, F. N. Grinling, A. D. Heath,

and J. R. Whait. Junior Class: Silver medal, E. E. Murray; certificates, 2°, equal, P. H. Best, and J. S. Bolton, 4°, D. Morrison. Second Class: A. P. Nuttall. Third Class: C. H. Dissent. Anatomy.—Senior Class: Gold medal, C. G. Spencer; first silver, F. W. Wesley; second silver, M. Randall; certificates, 4°, equal, D. Keele and G. A. Stephens. Second Class: F. N. Grinling. Third Class: A. D. Heath, A. W. Kirkpatrick-Picard, J. L. Sawers, and H. J. Scharlieb. Junior Class: Silver medal, J. S. Bolton; certificates, 2°, T. Harrison, 3°, A. Dimsey; 4°, C. H. Dissent. Second Class: E. F. Harwood and W. D. Jones. Third Class: Palemon Best, J. L. Davies, G. W. Gostling, D. Morrison, E. E. Murray, A. P. Nuttall, and T. R. Stedman. Medicine.—Gold medal, Herbert Tilley; first silver, A. Griffith; second silver, G. F. Blacker; certificate, 4°, L. Williams. Second Class: E. L. Hughes and G. Pernet. Surgery.—Gold medal, G. F. Blacker; first silver, Herbert Tilley; second silver, W. B. Morton; certificates, 4°, S. H. Snell; 5°, equal, A. Griffith and C. D. Marshall. Second Class: G. Pernet, A. J. Waring, and L. Williams. Third Class: F. J. Charlton. Chemistry.—Third Class: J. L. Davies and Arthur Emlyn. Pathology.—Practical Course: Tuke medals, silver, C. B. Turner; bronze, A. Griffith. Second Class: R. G. Rows. Third Class: L. Williams. Practical Surgery.—Erichsen prize, G. F. Blacker; certificates, 2°, equal, D. Drew and Herbert Tilley; 4°, C. B. Turner. Clinical Medicine.—Senior Class: Fellowes gold medal, equal, Herbert Tilley and C. B. Turner; certificate, 3°, equal, C. D. Cooper, H. Head, and S. H. Snell: 6°, G. F. Blacker; 7°, F. G. Bushnell. Second Class: A. Griffith, S. B. Mitra, and W. B. Morton. Third Class: H. Caiger, D. Drew, G. Pernet, and E. Ringrose. Junior Class: Angel Money, M.D., B.S. Fellowes silver medal, H. R. Smith; certificates, 2°, W. M. Stevens, 3°, C. C. Chidell; 4°, F. S. Noble; 5°, W. L. Andriezen; 6°, A. G. Phear; 7°, H. Finley. Second Class: F. W. Bartlett, R. C. Bartlett, H. J. Curtis, F. W. Gange, H. M. Richards, and S. Williams. Third Class: A. T. Cooper, A. C. Leigh, A. Morrison, and G. E. Newby. Clinical Dental Surgery.—Silver medal, Herbert Tilley; certificates, 2°, equal, A Griffith and C. B. Turner. Second Class: G. S. Abram, and C. D. Marshall. Third Class: R. C. Worsley and C. Dudley Cooper. Midwifery.—Senior Class: Gold medal, G. S. Abram; silver, C. B. Turner; certificates, 3°, equal, H. J. Curtis, and L. Williams. Junior Class: Silver medal, W. L. Andriezen; certificates, 2°, W. M. Stevens; 3°, S. Williams; 4°, H. M. Richards. Third Class: C. C. Chidel, W. H. J. Huthwaite, D. Keele, and W. T. Page. Histology and Practical Histology: Prize, J. S. Bolton. Chemistry.—Third Class: John Phillips and John Richards. Practical Chemistry.—Prize, John Richards; certificates, 2°, equal, David Evans, T. R. Llewellyn, and T. Rhind, 5°, F. P. Duncan. Second Class: H. G. W. Stewart and A. L. A. Webb. Third Class: Adam Cowes, Arthur Emlyn, H. P. Miles, John Phillips, and Wm. Roberts. Practical Chemistry.—Senior Class Prize, F. W. Wesley; certificates, 2°, W. J. Best, 3°, equal, A. Heath and J. L. Sawers; 5°, M. Randall; 6°, E. J. Smyth and C. G. Spencer; 8°, F. N. Grinling; 9°, equal, C. J. Harrison and P. S. Eves; 11°, A. W. Kirkpatrick-Picard. Second Class: J. Jones and J. A. Stephens. Third Class: A. B. Jones. Organic Chemistry.—Prize, F. W. Wesley; certificate, 2°, G. A. Stephens. Second Class: E. J. Smith and C. G. Spencer. Third Class: F. N. Grinling and M. Randall. Materia Medica and Therapeutics: Gold medal, M. Randall; silver, F. W. Wesley; certificate, 3°, G. A. Stephens. Second Class: H. R. S. Clarke, A. Gaskell, A. D. Heath, and C. G. Spencer. Third Class: P. S. Eves. Medical Jurisprudence: Gold medal, Douglas R. Green; silver, F. T. Morris. Pathology; Filliter Exhibition of £30, W. M. Stevens; silver medal, W. Andriezen; certificate, 3°, H. M. Richards. Ophthalmic Medicine and Surgery: Silver medal, C. D. Marshall; certificate, 2°, G. S. Abraham. Second Class: L. Williams. Third Class: C. B. Turner. Hygiene: Silver medal and prize, C. H. Thompson. Second Class: H. G. Monk and W. Roughton. Clinical Medicine.—Senior Class: Fellowes medals—Gold, L. Williams; silver, G. S. Abram; certificate, 3°, W. G. Rows. Second Class: H. J. Curtis. Junior Class: J. R. Bradford, M.D., D.Sc. Fellowes silver medal, W. T. Lister; certificates, 2°, C. H. C. Visick; 3°, C. W. Finch; 4°, J. E. Ramsay. Third Class: W. H. Huthwaite, E. Newlyn Smith, W. H. Payne, G. A. Watson, and G. W. B. Waters.

* Obtained the number of marks qualifying for a prize.

WESTMINSTER HOSPITAL.—Honours List, 1889-90. Entrance Scholarships (Winter).—A. E. Jerman, E. J. Richards (equal), £120; M. Farrant, £20. Summer.—R. H. Norman, £100; S. G. Tippett, £40. Treasurers' prize, for first winter subjects (value ten guineas), H. M. Dowler, M. Farrant *proxime accessit*. President's prize, for second-year subjects (value 20 guineas), S. A. Bull. Bird Prize and medal (value £15), not awarded. Chadwick prize (value 20 guineas), A. W. Harrison. Clinical Medicine prize (value £5), E. H. Sharman. Clinical Surgery prize (value £5), H. C. C. De Renzi. Class Prizes and Certificates.—Anatomy: S. A. Bull (senior class); M. Farrant and H. M. Dowler (junior class). Physiology: S. A. Bull and A. P. Brice (senior class); H. M. Dowler, M. Farrant, A. E. Peake, F. K. Wilson, and W. H. Chute (junior class). Histology: S. A. Bull and A. P. Brice (senior class). Chemistry: H. M. Dowler, F. K. Wilson, and M. Farrant (junior class). Medicine: W. H. A. Tebbs (senior class), prize. Surgery: A. W. Harrison (prize), H. A. Stonham (*proxime accessit*), and J. B. Byles (senior class). Honours List (Summer Session), 1890.—Materia Medica: F. K. Wilson, prize; J. W. R. Forsayeth, E. W. Robinson, G. H. Ormsby, and H. S. Schultess-Young, certificates. Practical Chemistry: F. K. Wilson, prize; G. C. Hancock, A. E. Peake, and E. W. Robinson, certificates. Midwifery and Diseases of Women: W. H. A. Tebbs, prize; H. A. Stonham, certificate. Forensic Medicine: W. H. A. Tebbs, prize; J. B. Byles, certificate. Histology: M. Farrant, prize; F. K. Wilson, certificate.

PROPOSED HOSPITAL AT WILLINGTON QUAY.—The Joint Committee from the Wallsend, Willington Quay, and Howdon Local Boards have agreed that the Willington Dene site is the most suitable for the proposed hospital, and have decided to submit that site for the consideration of the three boards. It is also resolved to apply to the central authority for compulsory powers to purchase that site, and the Urban Authority of Tynemouth are to be asked to join the three boards, with the view of taking in their portion of the parish of Wallsend.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

The Sanitary State of the Easingwold Rural District, by Dr. BARRY.—This is a somewhat voluminous report, dealing as it does in considerable detail with the various sanitary circumstances prevailing in a number of separate parishes and places within the rural district. Generally speaking, it may be said that the report shows that but little properly considered action has been carried out by the authority, and where action has been taken it has often been of a makeshift character. Thus, wells sunk in a soil permeated with filth are "cleansed"; as if this process could alter the character of the soil through which the water reaches the wells. No urban powers have been obtained in order to control the erection of buildings; and although the medical officer of health and the sanitary inspector have fulfilled their duties well, their advice has not been properly acted upon. Since the date of the inspection made by Dr. Barry, an increase of salary has been proposed for each of those officers, and it is to be hoped that this is the beginning of a better state of things. The need for some new departure is indicated by the fact that the mean rates of death during the thirty years 1860–89 are for the most part considerably higher than the similar rates in the standard districts of the Registrar-General, and this notwithstanding that the latter contain some not inconsiderable urban areas. But it must be added that decennium by decennium there has been change for the better in certain mortalities, whilst diphtheria unfortunately exhibited a higher rate in 1880–89 than in either of the preceding two decennial periods. Naturally, Dr. Barry has a number of recommendations to make affecting future action and sanitary administration.

Fever in the Runcorn Urban District, by Mr. SPEAR.—Fever, which has generally been of the enteric type, has been somewhat frequent at Runcorn, the principal recent outbreaks having taken place in 1874, 1884, and 1889, and it has on each occasion been in part associated with defective conditions of privies and of sewers. Last year some 75 cases occurred in thirty-eight households, and 17 deaths resulted, men being specially attacked. Amongst these men one set were found to have drunk water, whilst at their work, from a spring which had become polluted by the overflow of a drain. Speaking generally of the sanitary conditions, Mr. Spear points to the absence of ventilation and the lack of adequate flushing of sewers and drains, defective scavenging, houses built back-to-back, faulty building by-laws, and other similar matters. There is a hospital for infectious diseases, but though it was apparently provided out of the rates, with a view to the protection of the public health, yet a custom has prevailed of making those who go into the institution pay fees to the sanitary authority, a practice which invariably deprives such a hospital of its principal value as a means of defence against infection. Amongst the recommendations which Mr. Spear makes, one is aimed at getting rid of this system, and especial attention is drawn to the need for improvement in the sewers and in the methods adopted for the disposal of excreta and refuse.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5622 births and 3735 deaths were registered during the week ending Sept. 27th. The annual rate of mortality in these towns, which had been 18·6 and 19·1 per 1000 in the preceding two weeks, further rose last week to 20·0. The rate was 17·2 in London and 22·5 in the twenty-seven provincial towns. During the thirteen weeks ending on the 27th ult. the death-rate in the twenty-eight towns averaged 19·1 per 1000, and was 1·1 below the mean rate in the corresponding periods of the ten years 1880–89. The lowest rates in these towns last week were 11·4 in Derby, 14·3 in Nottingham, 15·0 in Bristol, and 16·6 in Leicester; the

highest rates were 28·5 in Plymouth, 30·7 in Cardiff, 32·2 in Preston, and 32·6 in Manchester. The deaths referred to the principal zymotic diseases, which had been 599 and 680 in the preceding two weeks, further rose last week to 694; they included 386 from diarrhœa, 66 from scarlet fever, 63 from whooping-cough, 62 from measles, 58 from "fever" (principally enteric), 58 from diphtheria, and 1 from small-pox. The lowest death-rates from these diseases were recorded in Bristol, Nottingham, Leicester, and Derby, and the highest in Bradford, Preston, Wolverhampton, and Norwich. The greatest mortality from measles occurred in Birkenhead, Manchester, and Cardiff; from scarlet fever in Manchester, Wolverhampton, and Liverpool; from whooping-cough in Oldham, Huddersfield, Halifax, and Norwich; from "fever" in Birkenhead, Plymouth, and Preston; and from diarrhœa in Blackburn, Bradford, Preston, Norwich, and Wolverhampton. The 58 deaths from diphtheria included 38 in London, 3 in Liverpool, 3 in Birmingham, and 3 in Salford. One death from small-pox was registered in London, but not one in any of the twenty-seven provincial towns. No small-pox patients were under treatment at the end of the week either in the Metropolitan Asylum Hospitals or in the Highgate Small-pox Hospital. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of last week was 1681, against numbers increasing from 1427 to 1596 on the preceding five Saturdays; the patients admitted during the week were 206, against numbers increasing from 118 to 211 in the previous seven weeks. The deaths referred to diseases of the respiratory organs in London, which had been 210 and 187 in the preceding two weeks, rose again last week to 222, and almost corresponded with the corrected average. The causes of 68, or 1·8 per cent., of the deaths in the twenty-eight towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bristol, Hull, Sunderland, and in eight other smaller towns. The largest proportions of uncertified deaths were recorded in Liverpool, Oldham, and Halifax.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 17·8 and 19·6 per 1000 in the preceding two weeks, declined again to 18·7 in the week ending Sept. 27th, and was 1·3 below the rate that prevailed during the same period in the twenty-eight large English towns. The rates in the eight Scotch towns ranged from 9·2 in Greenock and 12·5 in Perth to 22·2 in Glasgow and 22·9 in Paisley. The 483 deaths in the eight towns showed a decline of 23 from the number in the previous week, and included 34 which were referred to diarrhœa, 12 to whooping-cough, 11 to "fever," 6 to scarlet fever, 5 to measles, 4 to diphtheria, and not one to small-pox. In all, 72 deaths resulted from these principal zymotic diseases, against numbers increasing from 65 to 89 in the preceding four weeks. These 72 deaths were equal to an annual rate of 2·8 per 1000, which was 0·9 below the mean rate last week from the same diseases in the twenty-eight English towns. The fatal cases of diarrhœa, which had risen from 18 to 41 in the preceding three weeks, declined last week to 34, of which 14 occurred in Glasgow and 9 in Edinburgh. The deaths from whooping-cough, which had been 25 in each of the previous two weeks, declined to 12 last week, and included 8 in Glasgow and 3 in Edinburgh. The 11 fatal cases of "fever" exceeded those recorded in any preceding week of this year, and included 8 in Glasgow. The 6 deaths from scarlet fever and the 5 deaths from measles showed a slight decline from those returned in the previous week. Of the 4 fatal cases of diphtheria, 3 occurred in Glasgow. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 84 and 74 in the preceding two weeks, rose again last week to 95, and exceeded the number in the corresponding week of last year by 6. The causes of 57, or 1·2 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 17·3 and 19·4 per 1000 in the preceding two weeks, further rose to 20·8 during the week ending Sept. 27th. During the thirteen weeks of the quarter ending on Saturday last the death-rate in the city averaged 20·2 per 1000, the rate for the same period being 18·1 in London and 16·6 in Edinburgh. The 141 deaths in Dublin showed an increase of 10 upon the number in the previous week; they included 13 which resulted from diarrhœa, 4 from "fever," 1 from measles, 1 from whooping-cough, and not one either from scarlet fever, diphtheria, or small-pox. Thus the deaths referred to the principal zymotic diseases, which had been 15 and 13 in the preceding two weeks, rose again last week to 19; they were equal to an annual rate of 2·8 per 1000, the rate from the same diseases being 2·5 in London and 2·9 in Edinburgh. The deaths from diarrhœa, which had been 11 and 4 in the preceding two weeks, rose again last week to 13. The fatal cases of "fever," which had been 2 and 4 in the previous two weeks, were again 4 last week. The mortality from measles and from whooping-cough showed a decline from that recorded in the preceding week. The deaths of infants under one year of age in Dublin last week showed a marked increase upon recent weekly numbers, while those of elderly persons showed a decline. Six inquest cases and 3 deaths from violence were registered during the week; and 45, or nearly a third, of the deaths occurred in public institutions. The causes of 21, or nearly 15 per cent., of the deaths were not certified.

THE SERVICES.

INSPECTION OF SOLDIERS' RATIONS.

A SECOND class of officers has been ordered to assemble at Aldershot to receive instruction in reference to the quality of soldiers' rations, forage of horses, &c. Three officers are detailed from the Cavalry Brigade, three join from the Royal Artillery, whilst the three Infantry Brigades provide fourteen officers. All ranks from Major to Second Lieutenant are represented.

ARMY MEDICAL STAFF.—Surgeon-Major Daniel Charles Grose Bourns, F.F.P.S. Glasgow, has been placed on temporary half-pay on account of ill-health (dated Sept. 15th, 1890); Surgeon-Major Paul Connolly retires on retired pay (dated Oct. 1st, 1890).

ARMY MEDICAL RESERVE OF OFFICERS. — Surgeon Robert de la Poer Beresford to be Surgeon-Major, ranking as Major (dated Oct. 1st, 1890).

ADMIRALTY. — The following appointments have been made:—Staff Surgeon Alexander M. French to the *Beagle* (dated Sept. 30th, 1890). Surgeons: George A. S. Bell to the *Neptune* (dated Sept. 30th, 1890); E. C. A. Ramsay to be Surgeon and Agent at Fleetwood (dated Sept. 26th, 1890).

VOLUNTEER CORPS. — *Rifle:* 1st Volunteer Battalion, the Duke of Cornwall's Light Infantry: Josiah Telfer Thomas, Gent., to be Acting Surgeon (dated Sept. 27th, 1890).—20th Middlesex (Artist's): Richd. Reginald Sleman, Gent., to be Acting Surgeon (dated Sept. 27th, 1890).

Correspondence.

"Audi alteram partem."

"THE LEUCOCYTE AS THE SURGEON'S FRIEND."

To the Editors of THE LANCET.

SIRS,—I have read with the greatest interest the letters on the above subject which have appeared in the last two numbers of THE LANCET. It is plain that it is impossible to discuss fully in a letter this vast and important question, and if I crave for a little of your valuable space, it is merely to enter my protest against the conclusions contained at the end of Dr. Kanthack's letter—namely, that "it has yet to be proved that (1) phagocytes in Ruffer's and Metschnikoff's sense really exist; and (2), if so, that they are really leucocytes." I have no wish to defend here the accuracy of Metschnikoff's experiments. Everyone who has carefully examined, as I have, some of his marvellous preparations or repeated his experiments must be convinced of the truth of every one of Metschnikoff's statements. Dr. Kanthack, who gives a list of papers written to disprove the Russian observer's assertions, forgets to mention that during the last two years Metschnikoff has fully answered the objections raised against his theory. I must therefore refer the reader to the "Annales de l'Institute

Pasteur," where most of Metschnikoff's later papers have been published, and restrict myself to defending my own observations.

In the first place, let us see what happens in the body of a healthy animal.[1] There are two cavities which in all animals are always open to the entrance of micro-organisms—namely, the intestinal cavity and the air-passages; but I shall speak of the first only. The intestinal tract is lined everywhere by epithelium cells; but in all animals migrating cells force their way between the cells to the surface, so that the part of the intestinal wall actually in contact with the external world consists of epithelium *plus* an enormous number of amœboid cells. These migrating cells are of two kinds: some small (microphages), with one or many *hard*, darkly-staining nuclei; others very large (macrophages), with a single, clear, vesicular nucleus, the latter being developed from the small lymphocytes of the lymphoid tissue of the intestine (Heidenhain, Armand Ruffer). The presence of these large cells is an important fact to remember, for it proves that there are many kinds of wandering cells in the healthy body. Lately I have proved that the so-called epithelioid cells of the spleen are really amœboid structures.[2] In some animals, however, something more than this can be seen in the intestinal wall, for the struggle between the migrating cells and micro-organisms can be actually watched. If the surface of a rabbit's Peyer's patch or tonsils be examined, it will be found that some of the amœboid cells which have wandered to the surface contain micro-organisms in their interior. In my paper on the subject I proved that the microphages carry the micro-organisms into the depths of the lymphoid tissue, where both microphages and parasites fall a prey to the macrophages. Here, then, in the tissues of a healthy animal, a struggle takes place between the amœboid cells and micro-organisms, similar to that which occurs when a resistant animal is inoculated with a specific virus. That wandering cells not only proceed to the surface, but also return into the depths of the tissues, is proved by the penetration into the tissues of solid inorganic particles such as I have proved to take place in the tonsils. The following objection might be made—namely, that the lymphocytes wandering to the surface seize on dead micro-organisms only, and not on living ones. My answer to this objection is the following experiment which I have not yet published. The vermiform appendix of a rabbit killed whilst in perfect health is removed immediateiy after death. The peritoneum is stripped off, the mucous membrane scraped from the outside with the end of a scalpel, and the scrapings thus obtained spread on a glass slide. A drop of bouillon is now added, with the result that all cellular life is destroyed in the preparation, whilst the micro-organisms present are supplied with abundant nutritive material. The preparation is now covered with a thin cover-glass, surrounded with paraffin to prevent evaporation, and examined on the hot stage at 38°C. It is then found that the amœboid cells show no further signs of life, but that some of the intra-cellular micro-organisms, subjected no longer to the action of the cells in which they were contained, and supplied with abundant nutritive material, begin to grow vigorously at once, and in the course of a few hours may form threads, which sometimes grow to a considerable length. This experiment, copied on one originally designed by Metschnikoff, proves that phagocytes really exist, and that they are able to take living micro-organisms into their interior. Moreover, in the rabbit's Peyer's patch the supposed toxic influence of the animal's fluids can have no share in the destruction of micro-organisms, as the latter are always contained in cells. I confess that I am extremely sceptical as to the harmful action on microbes of the *living* juices of the body. From my own experiments on the subject I have learned that the tissues and fluids of an animal which, *when dead*, form but a poor cultivating fluid for a certain species of microbes are, *when alive*, a most excellent medium for the same micro-organisms. Do we not know that the blood of an animal, when shed and allowed to die, becomes toxic for the same animal when reintroduced into its veins? When I endeavoured to study what took place in a local inflammatory process, I used for inoculating purposes a dried virus (bacillus Chauvæi)—i.e., one the life of which was in abeyance. I thought that if the inflammatory liquids were toxic for pathogenic micro-organisms, this harmful influence would have an excellent chance of manifesting itself on the dried latent virus. I soon saw, however, that, far from having any such deleterious action, the inflammatory liquids called the bacilli into active life, and, after a few hours, an innumerable number of active virulent bacilli were seen floating in the inflammatory liquids. Very soon, however, the lymphocytes formed a kind of living wall round the bacilli, localised the disease, attacked the bacilli, and destroyed them in incredible numbers. Never did I see the slightest sign of degeneration in the bacilli floating in the exudation fluid. I have obtained evidence that a like process is at work in diphtheria, actinomycosis, typhoid fever, and other infectious diseases; and although these researches are not advanced enough to be published in full, yet they are sufficiently so to enable me to say that phagocytes play a most important part in the localisation and cure of infective disease in man. The question whether phagocytes are leucocytes or not is of secondary importance, and one which is not likely to receive its final answer just yet. Although, in my opinion, it is fully proved that in many instances both microphages and macrophages are leucocytes, or derived from the latter, I have never attempted to prove, and see no reason for doubting, that connective tissue cells do not occasionally become mobile, and take a share in the destruction of the invading microbes.

I must apologise for trespassing so long on your space, my only excuse for doing so being my conviction that the mechanism of immunity is, without doubt, the most important problem of modern pathology.

I remain, Sirs, your obedient servant,

M. ARMAND RUFFER, M.A.

Torrington-square, W.C., Sept. 29th, 1890.

[1] Quarterly Journal of Mic. Science, February, 1890
[2] British Medical Journal, September, 1890

THE BLACKWATER RIVER AND VALLEY.

To the Editors of THE LANCET.

SIRS,—With regard to a leading article in your issue of Sept. 20th, and to the various papers which have appeared in THE LANCET on the state of this valley, I beg to supply a few notes.

In my annual report for 1884 I said: "If we had better drainage and a water-supply free from subsoil and other contaminations the vitality of the people would be raised and the death-rate lowered. This brings me for the eleventh year to the state of the Blackwater river; it remains nothing more or less than an open sewer, and, with cholera so near and diphtheria in the neighbourhood, it should most undoubtedly be cleaned out. You cannot have pure water or a healthy atmosphere for miles along the valley till this is done." Note that this was in 1884. In the winter of 1887 the river was cleaned out at great expense. In my report for 1888 I said: "The cleaning of the bed of the Blackwater river of sewage sludge, although in my opinion not very perfectly done, has made a vast improvement, and it will be necessary to have it kept free from weeds and contamination. Seeing that on its banks there are the Aldershot sewage works, the North Camp sewage farm, the Farnborough sewage grounds, the York Town and Camberley sewage farm, and the Royal Military and Staff Colleges sewage farm, it at once becomes apparent that watchfulness is needed. For many years the death-rate of this sanitary district has compared most favourably with that of any other in England. Beyond the wave of diphtheria the Union is in a very healthy state. What with open heath lands, pine and other woods, and the greater part a sand and gravel subsoil, its salubrity is undeniable." This advice was acted on, and, in order to show the improved condition of affairs, I copy from the last annual report of the surveyor and inspector of nuisances. He says: "In August, 1888, we cleared out many of the heavy accumulations of mud and obstructions from the bed of the Blackwater river, and the presence of fish at Farnborough is proof that the water is much more pure after what has been done during the last four years." This refers to the second cleaning out, the first being done in 1887. In my report for 1889 I wrote: "I have to advise that the Blackwater river be kept free from sludge and weeds. I do not believe it is receiving such pollution by sewage as would warrant your taking action; but of course, with the Aldershot sewage works and so many sewage farms along

its course, even with the best management there will be some deposits, and watchfulness, with occasional cleaning out, will be necessary." It should be known that we have no power to prevent the effluent from these sewage farms and works being turned into the river. In 1887, after the first work of cleaning out, the Hartley Wintney Sanitary Authority took proceedings against the Government Manure Company and the Aldershot local board for causing pollution, and was successful in both cases. If anyone will show me something tangible in the shape of sewage or filth contaminating the river, the Hartley Wintney Sanitary Authority, which has hitherto done its duty in this matter, will, on my advice, take the case up. I have a very intimate knowledge of the district, and I assert that the Blackwater valley is immeasurably better than it was a few years ago. The river was not cleaned in the summer; better it had been, as the reeds are then visible. A mill a few miles down the stream has been removed, so that now there should be a greater fall. I have no hesitation in recommending that the river be again cleaned out, from Eversley to Aldershot Town. If the four sanitary authorities having jurisdiction in the area would only pull more together, there would soon be as little to complain of as is capable of remedy at their instance. Perhaps we may at some future time see a straight "cut" made, and the present tortuous stream diverted into it. As the mischief originally arose through the sewage of Aldershot Camp and Aldershot Town having been for many years discharged into the river, and as the health of the troops and the gentlemen cadets at Sandhurst is of paramount importance, the straightening of the river and further purification of the valley should, in my humble opinion, be undertaken by the War Office authorities.

I am, Sirs, yours obediently,

C. J. DENNY,

Sept. 30th, 1890. Med. Officer of Health, Hartley Wintney San. Auth.

BARMING HEATH ASYLUM.

To the Editors of THE LANCET.

SIRS,—In a note about this asylum in your last issue you say that the superintendent "could suspend the attendants without any chance of their case being brought before the committee." This is not true. I have been superintendent of this asylum over fourteen years. There have been many suspensions during this time, but every one has been reported to the committee and the cause of the same investigated by them. Every person suspended has had the right of appeal to the committee, and in almost every case this right has been exercised, yet never has my decision been reversed. The attendants complained that there was often a long delay before their appeal could be heard. To remedy this I recommended the changes which have been made, and now, instead of having to wait for the next meeting of the committee, the case can be heard at once by two visitors, while the right of appeal to the full committee still remains in force. I quite agree in your concluding remark: "There is every prospect of a satisfactory settlement." But this will not be hastened if undue prominence is given to *ex-parte* statements. I regret to say that *one section* of the local press, under the inspiration of discharged servants of this asylum, has for some time past published anonymous attacks upon me and my management of the asylum, which are as untruthful as they are virulent. As, however, the whole subject is occupying the attention of my committee, I must ask you to suspend your judgment for the present.

I am, Sirs, your obedient servant,

F. PRITCHARD DAVIES, M.D.,

Barming-heath Asylum, Sept. 29th, 1890. Superintendent.

SANITATION AT SEA.

To the Editors of THE LANCET.

SIRS,—As an ex-surgeon of the P. and O. Company, may I be allowed to correct the idea that some of your readers may have formed from Mr. Piggott's letter in THE LANCET of Sept. 27th, that the P. and O. Company are hostile to any sanitary improvements being introduced into their ships, or that their ships are badly ventilated? The P. and O. ships are above the average in hygienic conditions, as they ought to be, considering the amount of hot weather they encounter. Any new feasible sanitary scheme for the better condition of their ships the Company are always willing to try; this has been my experience during the two and a half years I spent in their service. If Mr. Piggott had done the usual thing, consulted with the captain, and got him to add his signature to his report to the *medical superintendent*—or, as Mr. Piggott styles him, "the senior surgeon,"—the unpleasant ordeal of appearing before the higher powers would not have taken place, and his suggested improvements, as far as practical, would no doubt have been carried out. The medical superintendent is always ready to put any schemes for improving the sanitary condition of the ships before the managing directors, provided the said scheme be not the outcome of some inadvertent imagination. Many improvements which ought to be carried out according to a medical point of view are totally impracticable, and it requires the added testimony of a sailor or shipbuilder to say whether they will act when the ship is at sea. In a company like the P. and O., where the surgeons rank as senior officers, I should say, were they appointed by the Board of Trade considerable trouble would ensue, not only to themselves, but to those who came in contact with them, for they would be looked upon as pariahs by the ship's company. This is readily understood by any one thoroughly acquainted with the official life of one of our big companies. I don't think that in any other company the doctor has such power, where the health of crew and passengers is in question, as he has in the P. and O. S. N. Company. The captains are always willing to do everything in their power to help him in his work.—I am, Sirs, yours faithfully,

STUART HALLOWS, M.B.Ed., D.P.H.

Harle Syke, near Burnley, Sept. 29th, 1890.

HOSPITALS AND CHILDREN'S INSURANCE.

To the Editors of THE LANCET.

SIRS,—I am sorry to trouble you, but I should be very glad of your opinion upon the following circumstances.

As resident medical officer I was called upon last July to attend a child; I found it suffering from marasmus, diarrhœa, and worms; after several visits I found the mother neglected the child (who was insured) very greatly, and I cautioned her that unless she was more careful I should refuse the certificate in case of any fatal result. The child got worse and the neglect continued, and one day the mother took it to —— Hospital, where it died in a few hours, and a certificate was given. I was much struck by the ease with which the mother obtained this certificate, so wrote to the hospital for particulars. As I received no answer, I again wrote, and then the secretary wrote, thanking me for drawing his attention to the case, and promising the medical superintendent should write me. Again I had no letter, so after another fortnight had elapsed, I reminded him of his promise, and received a note from the medical superintendent, saying the child died of well-marked tubercular meningitis. I wrote and thanked him, but pointed out my question as to whether there had been any post-mortem examination was still unanswered. I heard no more for a month, so I wrote to the secretary and complained of the discourtesy with which I had been treated, and repeated my question. He replied that I had been treated quite properly, and that if I was told the cause of death that was quite sufficient. Yesterday I wrote and explained to him that I was not disputing their diagnosis, but wanted to be informed if a post-mortem was held, and I pointed out if a child is admitted into a hospital obviously dying, evidently having been ill for some time, and no inquiries whatever are made as to previous care or treatment, and if the child dies, and a certificate of death is granted without any inquiry or without any post mortem, it makes it an extremely easy matter for children to suffer great cruelty, and for frauds upon insurance offices to be perpetrated. In reply, I have just received an extremely rude letter from the secretary, saying "my thirst for information leads me to ask too much," and that they "are not disposed to satisfy a curiosity of so inordinate and meddlesome a character." Now I care nothing for his rudeness, but I am anxious to know if I have asked too much, or if I have transgressed any unwritten law in persistently trying to obtain an answer. If so, I am quite ready and willing to apologise.

I need hardly say I wrote in a perfectly friendly spirit, but I take a deep interest in infantile insurance; and if such cases as I tell you of here often happen, it certainly is

an abuse of our hospitals. I thought, for my own satisfaction, I was justified in asking if the certificate was given before or after a post mortem, and on this point I should feel very deeply indebted to you if you will give me your valuable opinion. Apologising for this long letter,

I remain, Sirs, your obedient servant,

ERNEST SNAPE, L.R.C.P.Lond. &c.,
Resident Medical Officer, St. Marylebone General Dispensary.

Welbeck-street, W., Sept. 26th, 1890.

*** We think our correspondent has been treated with scant courtesy. He might at least have been referred to the physician under whose care the case was treated and *certified*. It is possible that the diagnosis might admit of being made absolute or with reasonable certainty; but such cases should not be certified by a hospital official on the strength of a *few hours'* observation. The mere existence of tubercle does not determine the propriety of a medical man giving a certificate in a case brought to him *in articulo mortis*. There should be communication first with the medical man in previous attendance. Without care, hospitals may easily facilitate bad forms of insurance, especially of children's lives.—ED. L.

THE INTERNATIONAL CONSUMPTION OF MEAT.

To the Editors of THE LANCET.

SIRS,—The letters on the above subject have opened up a very interesting discussion on the therapeutic value of meat in the treatment of diseased conditions. I believe it is high time that obsolete ideas now in vogue as to the injurious effects of meat and fish taken in large quantities should be modified, and I question if sugar and starch in the manifold ways they are consumed are not accountable for much of the liver derangement, dyspepsia, gout, and rheumatism now so common. I quite endorse the opinions set forth in Mr. Yorke-Davies' letter. For especially notice what a hardy race are the fisher folk of our seacoast towns, and they live largely on fish. As Mr. Yorke-Davies says: "In no other class than in that of fishers do we see larger families, handsomer women, or more robust and active men." The Canadians are a marvellously hardy people, and vegetable food forms but a small part of their daily diet. The Indian horsemen of the Pampas live entirely on the flesh of horses, and eat neither bread, fruit, nor vegetables, and what extraordinary endurance do they possess. Do we not for our climate use too great a proportion of vegetables containing starch and sugar in our daily dietary? I think we do; hence the proverbial corpulence of all classes in England, amusingly typified by the well-known figure of "John Bull" in the pages of *Punch*. A meat diet is undoubtedly the best for work, mental or manual, as it does not encumber the system, and is easier eliminated. I observe that Mr. Towers Smith touches on the usefulness of meat in the treatment of obesity. May I say a word from personal knowledge in favour of Mr. Yorke-Davies' system? We are indebted to him for simplifying the process of treating corpulency and making it far pleasanter and easier to carry out than that of Mr. Towers Smith, as the former gentleman supplements the meat from the first with harmless vegetable products free from sugar and starch. This prevents the disgust that arises from taking *undiluted* large quantities of meat and fish, and admits of the loss of fat being regulated according to age, habit, and constitutional requirements. Mr. Towers Smith's system is almost identical with that of Dr. Salisbury, an American physician. Of course he is highly successful, but, unless he takes a leaf from Mr. Yorke-Davies' book, his system will not find the same favour with the victims of obesity as the latter gentleman's does. I am, Sirs, yours faithfully,

Sept. 23rd, 1890. M.D.

ANOTHER RECREATION GROUND IN THE CITY.—The churchyard adjoining St. Mary the Virgin, Aldermanbury, has been adapted as a recreation ground, and was opened to the public last week. Seats have been provided by the Metropolitan Public Gardens Association, and Mr. Deputy Rogers is about to present to the parish a drinking-fountain to be placed at the side of the churchyard.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The late Disasters in Newcastle-on-Tyne.

I AM glad to be able to say that there have been no further fatal cases arising out of the late disastrous nitric acid accident at Messrs. Mawson and Swan's chemical establishment, by which two firemen lost their lives from the fumes. The superintendent (Matthews) and his men are slowly recovering. The Mayor of Newcastle held a meeting last week to promote a relief fund for the widows and orphans, and it at once received popular and influential support, Messrs. Mawson and Swan heading the list with the donation of 250 guineas. In connexion with the accident, it has been overlooked that nine of their assistants suffered from the fumes severely. Many of them, however, returned to work the next day, but it was seen that they were not in a fit condition to work, and were at once sent home.—The Elswick workmen injured on board the warship in the Tyne are also progressing satisfactorily towards recovery. It appears now that there was no boiler explosion, but, from some defect about the funnel, flames and vapour with ashes and hot coals were driven out of the furnaces amongst the men.

Public Health Society.

A Public Health Society has been formed at Newcastle, on the lines of those existing in Manchester and Edinburgh. The first meeting was held to-day, under the auspices of the Mayor and other prominent citizens. Mr. V. W. Rutherford and Dr. V. H. Rutherford are hon. secs.

Lectures.

The lecture season opened last week with two very able discourses. The first was by Mr. P. Hawkridge, M.A., B.Sc., on Spontaneous Combustion. The lecturer showed very clearly how certain compounds—requiring, as a rule, ignition—would at some temperatures and conditions ignite of their own accord, such as the ignition of turpentine and nitric acid. It is curious that the fatal accident in Mosley-street from nitric acid fumes followed so soon upon this lecture. The lecture of Professor Stroud, delivered upon the opening night of the session of the Newcastle Microscopical Society, on "Polarised Light," was also a valuable and instructive address, with experimental illustrations as to the value of polarisation in the estimation of oils, crystals, and many other substances used in the arts and medicine.

Typhoid Fever on Teeside.

Dr. Barry, the Local Government Commissioner, has commenced an inquiry at Stockton, Middlesbrough, and Darlington, as to the prevalence of typhoid fever in these districts. It appears that there have been, to Sept. 20th, fifty-eight cases in Darlington, eighty-three at Middlesbrough, fifty-five at Stockton, as well as numerous other cases in the rural districts of Middlesbrough and North and South Stockton. Dr. Barry, who is about to make a thorough examination of the districts, recommended care in the use of water and milk, and thorough flushing of drains and disinfection of watercloset. He pointed out that where there was an outbreak of that nature so evenly divided according to the population that a common cause, such as defects in the milk or water, might be suspected, all should endeavour to discover this cause.

Alnwick.

Mr. C. Clark Burman, surgeon, of Alnwick, has received a handsome testimonial, in the form of a splendid marble dining-room clock chiming the hours, and accompanied with suitable bronze ornaments &c. The presents are from his old friends and patients at Belford, where he practised for several years.

Sunderland: Suspected Poisoning by Tinned Salmon.

A serious case of poisoning through, it is supposed, partaking of tinned salmon has just been reported in Sunderland. The persons affected were an hotel landlord, his wife and family, and a barman employed at the house. They appear to have all become ill after their tea one evening last week. The landlord was most seriously affected, and all who partook of the tinned salmon suffered severely, but have now recovered.

Bequests to Northern Charities.

Under the will of the late Dr. Stranghan of Great

Usworth, county Durham, the Newcastle Royal Infirmary and the Whitley Convalescent Home, North Shields, have received £450 each.

Newcastle-on-Tyne, Oct. 1st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

St. Bernard's Well, Edinburgh.

AT the meeting of the Town Council last week a motion was submitted, and unanimously adopted, that "as it is most desirable to preserve the purity and medicinal properties of St. Bernard's Well, it be remitted to the Lord Provost's Committee, with powers to take such measures as may be deemed necessary to ensure that the water shall not be affected by any works in the channel of the adjoining river, which will shortly be commenced in connexion with the Water of Leith Purification and Sewerage Scheme."

The Disposal of City Refuse.

It was intimated some weeks ago that a deputation of the Town Council of Edinburgh had been appointed to visit various towns, with a view to investigate the best means of disposing of the city refuse. The expenses of the deputation amount to £111 8*s*. They visited Newcastle, York, Leeds, Bradford, Manchester, Birmingham, and London. When the expenses of the deputation were brought before the Town Council, Bailie Russell, M.B., who was one of the deputation, said that he felt ashamed at how little he and his friends were doing to attack the problem of maintaining cleanliness and a low death-rate. If the cleaning department should really have had its eyes opened to the efforts made by other towns in the matter of cleaning, and put forth greater and more intelligent efforts to keep the city clean, the ratepayers need not grudge the expense.

The Dean of Guild Court and the Royal Infirmary.

The Dean of Guild Court has passed, with a bad grace, and under protest, the plans submitted to it by the managers of the Edinburgh Royal Infirmary for the erection of a Nurses' Home. The managers have, however, been fined £5 for proceeding with the building before obtaining the sanction of the court.

Health of Edinburgh.

The mortality last week was at the rate of 15 per 1000. Out of a total of 79 deaths, diseases of the chest accounted for 25 and zymotic diseases for 6, of which 3 were due to whooping-cough. The intimations for the week comprised 6 cases of typhoid, 6 of diphtheria, 19 of scarlatina, and 7 of measles.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Sir P. Dun's Hospital.

THE introductory address for the winter session was delivered by Dr. E. H. Bennett on Wednesday, Oct. 1st. The east and west wings, which have been recently erected, were opened the same morning. The east wing, which is entirely isolated from all other parts of the hospital, will contain accommodation for twenty fever patients.

Schools of Surgery, Royal College of Surgeons.

The session was opened on Wednesday by Mr. H. Gray Croly, President of the College, who distributed the scholarships and prizes awarded at the termination of the summer session.

National Children's Hospital.

In order to clear off a debt of £500, which restricts the usefulness of this charity, it is intended to hold a bazaar and fancy fair in November, which will be organised by the ladies who visit the hospital.

Opening of the People's Park, Kingstown.

The ceremony of opening this park took place on Monday last. The park consists of some five acres, with a view across the Bay to Howth, nicely laid out with fountains, band-stand, covered stand for promenaders, and a handsome lodge for a caretaker. The cost has been about £4000.

Mater Misericordiæ Hospital.

A bazaar will be held early in December in order to obtain funds toward the erection of a fever wing to this hospital.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

High Altitudes and Intellectual Capacity.

M. JANSSEN, the well-known astronomer, read a paper at the last meeting of his academy at the Institute, in which he gave some interesting physiological details of his experiences during a recent ascent which he made of Mont Blanc. He made the ascent in a sledge of his own construction, which he had towed by guides. The primary object of his undertaking was to carry out some spectroscopic researches on points connected with the presence of oxygen in this rarefied atmosphere. Having, however, been able to attain an altitude of about 4800 metres without any physical fatigue, owing to the plan of ascent adopted, he found, contrary to what is usually experienced, that he had preserved intact his intellectual activity, and that he was able to trace out his calculations and conduct his investigations for several days without experiencing any mental fatigue or difficulty. On the contrary, he felt, he says, a sort of "psychical" excitation which facilitated the resolution of abstract and complicated problems. Not that M. Janssen enjoys any particular immunity in high altitudes, for in making ascents to much less elevated heights under ordinary conditions of physical exertion he suffered from the usual train of symptoms, such as difficulty of breathing, feebleness of intellect, with inability to concentrate his thoughts, &c. Moreover, in the journey lately accomplished, and during which he lived several days on the mountain summit, he found that the least effort brought about rapid physical fatigue, with succeeding inability to think. He concludes, therefore, that intellectual exertion is quite capable of being sustained at high altitudes, providing one is surrounded by conditions which determine complete physical repose.

A Medical Man Consulting with Bonesetters.

I read the following paragraph some days back in that most serious of all French papers, *Le Temps*. It certainly sounds, to borrow the current phraseology, *fin du siècle*. "M. Ronvier, Minister of Finance, we regret to say, met with an accident last Monday which, we are happy to learn, however, is not likely to be followed by any serious consequences. M. Ronvier was taking his usual morning ride on horseback, when his horse stumbled, unseating its rider and throwing him somewhat heavily on his right side. M. Ronvier was carried to his house, which was not far distant, where it was found he had dislocated his right foot. His doctor was sent for, and at the same time apprised of the nature of the accident. The doctor was not long in arriving on the scene accompanied by a bonesetter whom he had called in consultation." It is added that it was the consulting bonesetter who reduced the dislocation, and that M. Ronvier is making rapid progress towards recovery." Indeed, I have since learned that his recovery was of that phenomenally rapid kind which bonesetters alone are capable of bringing about!

Our Girl Graduates.

According to the last statistics, published by direction of the Minister of Education, there have been since 1866 202 women graduates. Of these, 35 were doctors of medicine, 69 bachelors of arts or sciences, 13 licentiates, and 2 pharmaciens. Of the 202, no less than 102 graduated at the Paris University, 16 at Lyons, 12 at Nancy, 11 at Bordeaux, &c. Among the foreign lady graduates the great majority were Russian or Roumanian. There were, however, several Poles, as well as a not inconsiderable number of English.

Errata.—In last week's Paris letter two typographical errors require correction. In the paragraph announcing the death of Dr. Hardy, the word "clinical" should obviously have been *chemical*. In the following paragraph, the name "Nonod" should have been printed *Monod*.

Paris, Sept. 30th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Sixty-third Meeting of the Society of German Naturalists and Physicians.

THE sixty-third meeting of the Society of German Naturalists and Physicians in Bremen began with a social assembly on the evening of Sunday, the 14th inst. The first of the scientific sittings took place on the 15th, and

the event of the day was the lecture of the President, the eminent Chemist Professor, A. W. von Hofmann of Berlin, on "Some of the Results of the Investigation of Nature since the Founding of the Society." At the second session it was decided that the next meeting of the Society should be held at Halle, and Professor His of Leipsic was elected President. Professor Oetwald of Leipsic then delivered a lecture on "Things New and Old in Chemistry." The concluding meeting was held on the 19th.

New German Medical Publications.

The following are among the more important medical works recently published:—"General Diagnosis and Therapeutics of the Diseases of the Stomach," by Dr. J. Boas; "Diet &c. in Gout and Rheumatism," by Dr. Arno Krüche; "Sanatoria for Consumptive Patients," by Dr. M. Dyrenfurth; "Sexual Hygiene and its Ethical Consequences," by Dr. Lever Ribbing, translated into German by Dr. Oscar Reyher; "Social Hygiene," by Dr. K. Georg; "Directions for Disinfection in Epidemics," official edition (published by Hayn of Berlin); "The Emperor's Order of the 27th January, 1890, regarding the Trade in Medicines," edited by Otto Meissner; "In Memory of Carl Westphal," by Professor Binswanger; "Guide through the Private Sanatoria of Germany, Austria, and Switzerland," by Dr. Paul Berger; "The Literature of the Thermal Springs of Aix-la-Chapelle since the Middle of the Sixteenth Century," by Dr. E. Fromm.

The Pettenkofer Prize.

The prize which was founded on the occasion of the seventieth birthday of the famous hygienist Professor Pettenkofer of Munich, has been awarded for the first time to Max Rubner, Professor of Hygiene at Marburg, well known for his investigations of the production of heat, and the bacteriologist Dr. Hans Buchner, private lecturer in the University of Munich, author of a book entitled "Naegeli's Theory of Infectious Diseases," and other writings on tuberculosis, anthrax, &c.

German Death-rates.

In the week which ended on Sept. 6th, the death-rates of the German cities were as follows: Aix-la-Chapelle, 27·2; Altona, 19·8; Barmen, 26·6; Berlin, 24·7; Bremen, 18·1; Breslau, 31·8; Chemnitz, 29·1; Cologne, 30; Dantzic, 24·6; Dresden, 18·3; Düsseldorf, 30·8; Elberfeld, 20·5; Frankfort-on-the-Maine, 18·9; Hamburg, with its suburbs, 20·1; Hanover, 23·8; Königsberg, 26·2; Krefeld, 22·7; Leipsic, 27·9; Magdeburg, 30; Munich, 32·7; Nürnberg, 26·6; Stettin, 20·5; Strasburg, 26·2; Stuttgart, 19·8. In the same, or the preceding, week the death-rate of Amsterdam was 17; Budapest, 27·3; Dublin, 19·2; Copenhagen, 20·8; Liverpool, 22·2; London, 17·9; Paris, 20·8; St. Petersburg, 23·7; Warsaw, 31; Vienna, 20·4.

Medical Statistics of Berlin.

In the beginning of this year the population of Berlin was over a million and a half, the number of its physicians and surgeons 1398, of its dentists 107, of its privileged pharmacies 120, and of its hospitals 34, with 4635 beds.

Cognac.

Professor Sell, of the Imperial Office of Health in Berlin, has published an interesting essay on Cognac, according to which the difficulty of judging of its purity is very great. The circumstances hitherto stated as distinguishing genuine from adulterated cognac are of no use to the chemist now, owing to the skill with which it is imitated. Professor Sell entirely agrees with other chemists, who declare that the unaided senses of real experts generally afford a much surer test of cognac than chemical analysis.

A Congress of Midwives.

The first Prussian Midwives' Congress was held here on Sept. 22nd and 23rd. Six hundred midwives from all parts of Prussia, including the presidents of all the Prussian societies of midwives, were present. Vienna and other parts of Austria were represented. Lectures were delivered mostly by authorities in obstetrics, and were reported with a view to publication.

Beer-drinking in Berlin and Munich.

According to recently published statistics the Berliners drank 2,692,471 hectolitres of beer in 1889, and the Munichers 2,680,712. The population of Berlin numbered about 1,500,000 last year, that of Munich about 250,000.

The "Holiday Colonies."

The committee of the Holiday Colony Society—i.e., the society for sending poor Berlin children to the country—held a meeting lately. It was reported that more than 200 children over last year's number were sent into the country. All the children, 2317 in number, were restored to their parents in better condition than they left them.

Appointments.

Professor Küster, who has been head surgeon of the Augusta Hospital here since 1871, has been appointed Professor of Surgery at Marburg; Dr. Barth of Berlin, Professor of Osteology in the same university; and Dr. Schoenlein of Würzburg, Professor of Physiology in the University of Santiago, in South America. Professor Ponfick of Breslau has been appointed Medical Privy Councillor, and Professor Fürbringer, of the Friedrichshain Hospital in Berlin, Medical Councillor and member of the Medical College of the Province of Brandenburg.

Professor Heinrich Schwarz.

The chemist, Professor Heinrich Schwarz, died the other day, aged sixty-six, at Eberswalde, near Berlin. One of his chief services was the introduction of volumetric analysis into Germany. He was a native of Eisleben, began his career as a private lecturer in Breslau University, and ended it as Professor of Chemical Technology at Graz.

Berlin, Sept. 29th.

CANADA.

(FROM A CORRESPONDENT.)

Association of Executive Health Officers of Ontario.

THE fifth annual meeting of this Association was held in Owen Sound on Aug. 19th and following two days. A number of interesting papers were read and discussed. One read by Mr. O. J. Showell of Owen Sound, entitled "The Best Way to Secure and Maintain a Wholesome Supply of Dairy Products," called forth some important facts relative to the manufacture of butter in the province. Referring to the almost unlimited demand in Great Britain for butter, it was stated to be almost impossible to sell the Canadian article there, and one of the reasons assigned was contamination of the cream by all kinds of odours and flavours while the milk was cooling. It was urged that the Government should foster the industry, that centrifugal machines should be used, and the coöperative plan adopted as in Denmark, thus securing a good article for home consumption as also for export. During the discussion, Mr. Mc Farlane, Dominion Analyst, stated that, however poor in quality, Canadian butter was all butter, and there was no oleomargarine made or sold in the country.

The Canadian Medical Association.

This Association held its annual meeting in Toronto on Sept. 9th, 10th, and 11th, Dr. J. Ross presiding. The address in Medicine was delivered by Dr. Prevost, Ottawa; in Surgery, by Dr. Chown, Winnipeg; in Obstetrics, by Dr. J. Chalmers Cameron, Montreal; in Materia Medica and Therapeutics, by Dr. W. S. Muir, Truro, N.S. A banquet was tendered the visitors by the Toronto members, and proved not the least interesting event of the meeting. Dr. Roddick, Montreal, was elected President for 1890–91.

"Science Healing."

The death of a well-known citizen of Toronto while undergoing a course of so-called "treatment" for diabetes mellitus by a Mrs. Stewart, a Christian scientist, was the subject of investigation recently by a coroner's court. It appears from the evidence that deceased had been suffering for some three years, and previously to placing himself under the care of this person had been receiving medical advice, and was living upon restricted diet. The scientist altered all this, permitted the eating of anything, and ordered the deceased to trust alone in the "mental argument" she would carry on between her mind and his and that eventually, by the workings of some unknown and unseen power (and the payment of the fee) he would gain "a correct conception of God," the obtaining of which would be coincident with the manifestation of health. Alas! the patient missed both, and the jury returned a verdict of manslaughter against the scientist, who will therefore stand her trial at the next assizes. The coroner, Dr. Johnson, in summing up the evidence, expressed his astonishment that a man like the deceased should fall a prey to such a "science," and was very stringent in his remarks upon "the fraud."

Medical News.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE. At the Convocation held on Sept. 30th, the following candidates were recommended for the degrees specified:—

Doctor of Medicine for Practitioners of Fifteen Years' Standing.—Charles William Chapman, M.R.C.P. Lond., M.R.C.S.; Wm. John Gibson, L.R.C.S., L.K.Q.C.P. Irel., L.M.; John Stephenson Selwyn Harvey, M.R.C.S., B.Sc., Licentiate of Medicine, Paris; Richard Johnson Martin, F.R.C.S., L.R.C.P. Edin., M.R.C.S.; Anthony Milroy, L.R.C.P. Edin., L.F.P.S., D.P.H. Glasgow; Charles Bagge Plowright, M.R.C.S., L.R.C.P. Edin.

Doctor of Medicine.—William Drewett Arnison, M.B., B.S. Durh., M.R.C.S., L.R.C.P. Lond.; Arthur Barry Blacker, M.B., B.S. Durh., M.R.C.S., L.S.A., L.R.C.P. Lond.; Edward Bowmaker, M.B., B.S. Durh.; Francis Henry Merceron Burton, M.B., M.S. Durh., M.R.C.S.; Ifor Davis, M.B., B.S. Durh., D.P.H.; Charles Frederick Lyne Dixson, M.B. Durh., M.R.C.S.; Jas. Thos. James, M.B. Durh., F.R.C.S., M.R.C.S., L.R.C.P., L.S.A.; Herbert Algar Sweetapple, M.B., B.S. Durh.; Joseph Harwood Wilson, M.B., B.S. Durh.

Bachelor of Medicine (Honours).—First Class: Thos. Beattie, College of Medicine, Newcastle-on-Tyne. *Second Class:* Charles Henry Duncan Morland, M.R.C.S., L.R.C.P., St. George's Hospital; Albert Morton Martin, College of Medicine, Newcastle-on-Tyne.

Pass List.—Percy Rutherford Adkins, St. Thomas's Hospital; Charles Averill, M.R.C.S., L.S.A., St. Bartholomew's Hospital; Frederick Herbert Alderson, L.R.C.P. Lond., Middlesex Hospital; Robert Cunynghame Brown, Thomas Buckham, and George Frederick Cross, College of Medicine, Newcastle-on-Tyne; Charles Chester Eardley-Wilmot, St. Bartholomew's Hospital; Frederick Stuart Harris, M.R.C.S., L.R.C.P. London Hospital; Arthur Augustus Hewer, St. Bartholomew's Hospital; William Melville-Davison and Selby Wetherell Plummer, College of Medicine, Newcastle-on-Tyne; Charles James Stanley, M.R.C.S., L.R.C.P., King's College, London; Benjamin Thomas Stokoe and William Henry Turnbull, College of Medicine, Newcastle-on-Tyne.

Bachelor of Surgery.—Charles Averill, M.R.C.S., L.S.A., St. Bartholomew's Hospital; Thomas Beattie, Robert Cunynghame Brown, Thomas Buckham, and Geo. Frederick Cross, College of Medicine, Newcastle-on-Tyne; Charles Chester Eardley-Wilmot and Arthur Augustus Hewer, St. Bartholomew's Hospital; Albert Morton Martin and William Melville-Davison, College of Medicine, Newcastle-on-Tyne; Chas. Henry Duncan Morland, M.R.C.S., L.R.C.P., St. George's Hospital; Selby Wetherell Plummer, Benjamin Thomas Stokoe, and Wm. Henry Turnbull, College of Medicine, Newcastle-on-Tyne.

The following candidates have satisfied the Examiners for the licence in Sanitary Science:—

William George Barras, M.B., D.P.H. Glasgow; William Benjamin Griffith, L.R.C.S., L.R.C.P. Edin.; James Alfred Hutton, M.B., B.S. Durh., M.R.C.S., L.R.C.P. Lond.; James Nowell Richardson, M.D. Durh., M.R.C.S.; James Robinson, M.D. Brussels, M.R.C.S., L.R.C.P. Edin.

MEDICAL MAGISTRATE.—Mr. Francis Kennedy Dickson, F.R.C.P., F.R.C.S. Edin., has been placed on the Commission of the Peace for the county of Derby.

FIVE CHILDREN AT A BIRTH.—The Brittany papers state that a peasant woman of Nozay, a village near Nantes, has been safely delivered of five children, who are still alive.

OPENING OF A CONVALESCENT HOME.—The Bishop of Reading last week opened the Convalescent Home for Women at Golder's Farm, Henley. The building is well situated, and the establishment will be under the personal supervision of Lady Donaldson and her sister, the Baroness Von Brandt, who are the principal supporters of the scheme.

SCHOLARSHIPS, &c.—At *Guy's Hospital:* Open Scholarship in Arts of 100 guineas has been awarded to Henry Percival Ferraby, of Bedford Modern School; Open Scholarship in Arts of 50 guineas, for candidates over twenty years of age, has been awarded to George Frederic Still, of Caius College, Cambridge; Open Scholarship in Science of 125 guineas has been awarded to Francis James Stewart, of Old Charlton; Open Scholarship in Science of 50 guineas has been awarded to Alfred Salter, of Lewisham.—At *Charing Cross Hospital Medical School:* The first Entrance Scholarship of 100 guineas has been awarded to Mr. M. Molloy, and the second of 50 guineas to Mr. J. R. Langley.—At *St. Thomas's Hospital:* Entrance Scholarships in Natural Science: First, value 125 guineas, awarded to Mr. Walter Ernest Dixon; second, value £60, awarded to Mr. Herbert Challis Crouch; Mr. P. J. Dear qualified for the first scholarship, but is ineligible.—At *St. Mary's Hospital:* Entrance Scholarships in Natural Science: R. W. Dodgson, £105; J. C. Smellie, £52 10*s.* Exhibitions of value of £26 5*s.* each: J. E. P. Davies, A. T. Evans, and S. P. James, in Natural Science; J. E. Beggs (University), in Anatomy; and W. Broadbent (University), in Practical Physiology.

THE FEVER HOSPITAL AT DARLINGTON being full, it has been determined to erect a hospital tent in the grounds. The nursing staff at the hospital has also been reinforced, and every effort is being made to meet the strain on the resources of the institution.

THE WIGAN INFIRMARY NEW WING.—The ceremony of opening the new wing which has been added to this infirmary, at an outlay of £2500, by Mr. James Henry Johnson, of the Abram Collieries, was performed by Mr. Alderman Smith, the Mayor of the Borough, on the 24th ult., and an address of thanks was presented to Mr. Johnson for his generous gift.

A WORKPEOPLE'S HOSPITAL FUND, LEEDS.—The liberal pecuniary support received for this Fund is worthy the imitation of other like centres of industry. The sum collected in 1885–86 was £1800, but by a subsequent improved organisation the receipts have doubled. This year £5200 has been collected. The contributions of the working classes to the local infirmary are now equal to those of the well-to-do, the average amount in each case being £4000.

FOOTBALL CASUALTIES.—Thomas Brown, a boy aged about fourteen, living with his parents in the Nottingham-road, Belper, was playing at football on Saturday, when he fell. Whilst on the ground another youth fell on him, the result being a fracture of one of Brown's legs.—On the same day, Joseph Earnshaw, whilst playing half-back in a match at Heanor, between Heanor Athletic and Belper Park, had his shoulder dislocated.—Also on the same day, in an Association match between Schorne College and Wolverton, A. B. James (of the College team) sustained a fracture of his leg halfway between the knee and the ankle.

QUEEN'S COLLEGE, BIRMINGHAM.—A conversazione of a very successful kind was held in the rooms of the College on the 1st inst. The prizes were distributed on the part of the Clinical Board by Mr. Wilders, the chairman, and on behalf of the College by Sir William Turner. The address of Sir William Turner was listened to with profound admiration by a large gathering, which numbered many of his former pupils, who accorded him a warm reception. A vote of thanks to Sir William was moved by the Warden, seconded by Mr. Oliver Pemberton, and carried with acclamation. The address, which dealt with medical education and university teaching, will doubtless come under the notice of the profession in another place, when it will be well worthy of the perusal of all interested in the progress and success of the highest interests of the profession.

BEQUESTS AND DONATIONS TO HOSPITALS.—The late Mr. Andrew Pickard of Ossett, near Dewsbury, bequeathed £1000 each to the Leeds Infirmary, the Wakefield Infirmary, the Dewsbury Infirmary, and the Royal Albert Asylum for Idiots, Lancaster, and £250 to the Hospital for Women and Children, Leeds.—Mr. Henry Upward, late of 41, Westbourne-park, London, bequeathed £200 each to the Hospital for Consumption (Brompton) and the Royal Hospital for Incurables (Putney). The ultimate residue of his personal estate is to be equally divided between the Royal Hospital for Diseases of the Chest, City-road, the London Hospital, St. George's Hospital, St. Mary's Hospital (Paddington), the London Fever Hospital (Islington), and the Children's Hospital (Great Ormond-street).—The Governors of St. Peter's Hospital for Stone (Henrietta-street, Covent-garden) have received from Mr. W. H. Johnson £1000.—By the will of the late Mrs. Hitchman of Fenton, Stoke-upon-Trent, legacies have been left to the following institutions: To the Warneford Hospital, Leamington, £2000; the North Staffordshire Infirmary, £2000; the Longton Cottage Hospital, £1000; the Incurable Hospital, Leamington, £500; and the Royal Medical Benevolent College, Epsom, £500.—A legacy of £90 has been received by the committee of management of the Sussex County Hospital, from the executors of the late Miss A. Picknell.—The treasurer of the Salford Royal Hospital and Dispensary has had handed to him, by Mr. Rowland, of Gateshead, £100 for the purposes of the institution.—The O'Donovan has left £50 to the County of Cork Hospital, £50 to Cork Fever Hospital, £20 to Cork Lying-in Hospital, and £100 to the Hospital for Incurables, Cork.

LITERARY INTELLIGENCE.—Mr. H. K. Lewis publishes this week a translation of Dr. Josef Grüber's "Text-book of the Diseases of the Ear," by Dr. Edward Law, surgeon to the London Throat Hospital, and Dr. Coleman Jewell.

PRESENTATIONS.—Mr. T. C. Anderson, M.A., M.B., C.M. Aberd., Assistant Physician at the Royal Lunatic Asylum, Aberdeen, was presented, on the 23rd ult., on the occasion of his departure for Australia, by the officials and servants of the asylum, with a handsome gold Albert chain and key with pendant.—Mr. R. F. Woodcock, L.R.C.P. Edin., M.R.C.S., has been presented by the members of the Wigan Ambulance Police Classes, on the occasion of his approaching marriage, with a handsome clock, as a mark of their appreciation of his attention in bringing these classes to a successful issue.

NEW COTTAGE HOSPITAL, LONGTON.—This hospital was formally opened last week by Mrs. Adam Clarke, widow of the late rector of the town. In 1865 Mr. Clarke founded a cottage hospital in Longton, and maintained it for some years, subsequently conveying it to trustees for the benefit of the working classes of the borough and its neighbourhood. The growing requirements of the district, however, rendered additional accommodation necessary, and an eligible site at Normacot was presented by the Duke of Sutherland. Plans were accepted, and the memorial stones of a new hospital were laid last year. The buildings are arranged on the pavilion principle, in three blocks, provision being made for thirty-eight beds. The total cost has been upwards of £6000, of which over £1000 remains to be raised.

CHARTERHOUSE SCIENCE AND ART SCHOOLS AND LITERARY INSTITUTES.—The winter session of this, one of the largest science and art schools in the United Kingdom, and a school which has trained some thousands of teachers for the office of science lecturers, commenced on Saturday, Sept. 27th, under the presidency of the Rev. Henry Swann, M.A. The continuance of the classes entails heavy responsibilities, and are conducted at a loss. No other institution seemed willing to take up the training of science and art teachers, and the committee do not like to forsake a work which must be useful to the community at large. Instruction of a practical character is given in most of the sciences at a very nominal fee; whilst in art, at an equally low rate, students, under the direction of five competent instructors, can be advanced in their studies. Those who have leisure can, at a very moderate charge, attend the day classes in art. Day classes are also held to prepare candidates for matriculation (London), clerical, medical (including dental), legal, and other examinations. Students who aim at becoming proficient in chemistry (organic and inorganic) have the opportunity of working in a well-fitted laboratory capable of accommodating sixty students. There are classes for matriculation, Latin, Greek, French, German, music, and shorthand, conducted by well-qualified teachers. Particulars of the classes may be obtained from C. Smith, organising secretary, St. Thomas Charterhouse, Goswell-road, E.C.

METROPOLITAN ASYLUMS BOARD.

Return of Patients remaining in the several Fever Hospitals of the Board at midnight on September 30th, 1890.

Hospital.	Beds occupied.						Total accommodation.
	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other diseases.	Total.	
Eastern Hospital	285	49	..	76	11	421	442
North-Western Hospital	338	35	..	20	1	394	443
Western "	187*	10	..	13	..	210	262
South-Western "	181*	..	..	..	..	181	340
South-Eastern "	286	16	1	34	1	338	464
Northern "	410	30	..	..	..	440	480
Totals	1687	140	1	143	13	1984	2429

* 1 infant with mother.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BARTON, JOHN A., M.B., C.M. Glasg., has been reappointed Medical Officer of Health for St. George, Bristol.

BLACK, R. SINCLAIR, M.A., M.B., C.M., D.P.H. Aberd., has been appointed Pathologist and Assistant Medical Officer to the Lancashire County Asylum, Whittingham.

BRUCE, J. A., M.B., C.M. Glasg., has been appointed District Surgeon at Tauns Vryburg, Kimberley, Bechuanaland, South Africa.

CARTER, ARTHUR W., M.B., has been appointed House Physician to the City of London Hospital for Diseases of the Chest, Victoria-park, E.

CHRISTIE, J., M.R.C.S., has been appointed Medical Officer for the District of Fintray, Aberdeen.

COMPTON, THOMAS J., M.B., C.M., has been appointed Resident Medical Superintendent to the Heigham Hall Asylum, Norwich.

COOPER, WILLIAM, M.D., M.B. Aberd., has been appointed Medical Officer for the District of Newmachar, Aberdeen.

FULLAM, W. F., L.R.C.S. Irel., has been appointed Workhouse Medical Officer to the Balrothery Union.

GILLESPIE, WM., L.R.C.P., F.R.C.S. Edin., has been appointed Public Vaccinator at Swan Hill, Victoria, Australia, vice McAdam, resigned.

GOODFELLOW, T. A., M.B. Lond., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Salford Royal Hospital, vice W. P. Stocks, M.R.C.S., L.S.A., resigned.

HALL, E. GEORGE, M.R.C.S., L.R.C.P., has been appointed Assistant House Physician to the Bristol Royal Infirmary.

JACOB, E. J., L.K.Q.C.P., L.R.C.S. Irel., has been appointed Medical Officer to the Bourney Dispensary, Templemore Union.

JOHNSTONE, G. W., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Newbottle Division of the Houghton-le-Spring Union, vice Hutchinson.

KINSEY-MORGAN, A., M.R.C.S., has been reappointed Medical Officer of Health for Bournemouth.

LEWIS, R. T., M.B., B.Ch. Dub., has been appointed Medical Officer for the First District of the Chesterton Union, vice Coates.

LORD, R. E., M.B. & B.Sc. Lond., M.B. & Ch.B. Vict., M.R.C.S., has been appointed Junior House Surgeon to the Salford Royal Hospital, vice T. A. Goodfellow, appointed House Surgeon.

MAVER, DAVID, M.B., C.M. Aberd., has been appointed Medical Officer for the District of Dyce, Aberdeen.

MILLER, HERBERT L., L.R.C.P., L.R.C.S. Edin., has been appointed Public Vaccinator for Warrnambool, Victoria, Australia.

POGSON, W., F.R.C.S., L.R.C.P., has been reappointed Medical Officer of Health for the Leeds Rural Sanitary District.

POTTS, F. R. H., M.R.C.S., L.R.C.P. Lond., of Beaconsfield, has been appointed Medical Officer and Public Vaccinator for the Hedgerley District of the Eton Union, vice F. Johnson.

PURSLOW, C. E., M.D. Lond., M.R.C.S., has been appointed Tutor in Midwifery and Gynæcology to Queen's College, Birmingham.

ROBERTSON, DONALD W., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer of Health for the Pickering Urban Sanitary District of the Pickering Union.

SPURRELL, C., M.R.C.S., L.R.C.P., has been appointed House Surgeon to Guy's Hospital.

STEPHENSON, R. B. T., M.B., C.M. Aberd., has been appointed Medical Officer for the District of Oldmachar, Aberdeen.

THOMPSON, JAS. E., M.B. Lond., M.R.C.S., has been appointed Resident Medical Officer to the Manchester Royal Infirmary, vice Milner.

WOHLMANN, A. S., M.R.C.S., L.R.C.P., has been appointed House Surgeon to Guy's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

BIRMINGHAM CITY ASYLUM.—Assistant Medical Officer, Salary £120 a year, board, and lodging.

CARDIFF UNION.—Resident Assistant Medical Officer for the Workhouse. Salary £100 per annum, with rations, apartments, attendance, and washing. (Apply to Mr. A. J. Harris, Clerk, Queen's Chambers, Cardiff.)

CLINICAL HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham, Manchester.—Honorary Assistant Surgeon. (Apply to Mr. Teague, Secretary, 38, Barton-arcade, Manchester.)

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—House Physicianey. No salary. Board and lodging provided free of cost.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark-bridge-road, S.E.—House Surgeon. Salary £70, with board, washing, and residence.

FLINTSHIRE DISPENSARY.—Resident House Surgeon. Salary £120 per annum, with furnished house, rent and taxes free; also coal, light, water, and cleaning, or in lieu thereof the sum of £20 per annum. (Apply to Mr. Cole, Secretary, Board-room, Bagillt-street, Holywell.)

GENERAL HOSPITAL, Nottingham.—Honorary Physician.

GENERAL INFIRMARY, Leeds.—One Resident Obstetric Officer for twelve months. Two House Physicians, one for six months and one for twelve months. Two House Surgeons for twelve months. One Resident Officer at the Ida Hospital: this appointment is for six months, with honorarium of £25.

HOSPITAL FOR DISEASES OF THE THROAT, Golden-square, W.—Resident Medical Officer. Salary £50 a year, with board and rooms.

KING'S COLLEGE, London.—Sambrooke Medical Registrar.

LINCOLN COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

NEWCASTLE-ON-TYNE DISPENSARY.—Two Visiting Medical Assistants. Salary £120 per annum.

NORTH-WEST LONDON HOSPITAL, Kentish-town-road.—Medical Officer. Salary £50. Assistant Medical Officer. No salary. Each provided with board, residence, and washing. Both appointments for six months.

PADDINGTON-GREEN CHILDREN'S HOSPITAL, London, W.—House Surgeon. Salary £50 per annum, with board and residence for six months.

ROYAL PORTSMOUTH, PORTSEA, AND GOSPORT HOSPITAL.—Junior House Surgeon. No salary. Board, lodging, and washing provided. (Apply to Mr. J. A. Byerley, Secretary, 137, Queen-street, Portsea.)

TAUNTON AND SOMERSET HOSPITAL.—Honorary Physician. (Apply to the Secretary, Taunton.)

WEST RIDING ASYLUM, Wakefield.—Fourth Assistant Medical Officer. Salary £100, rising to £130 per annum, with board, lodging, and attendance.

WHITECHAPEL UNION INFIRMARY.—Resident Assistant Medical Officer. Salary £150 per annum, with furnished apartments, coal, gas, and washing. Rations will be allowed if desired, subject to a payment of 12s. per week. (Apply to the Clerk, Union Offices, Baker's-row, Whitechapel, E.)

Births, Marriages, and Deaths.

BIRTHS.

BEECHAM.—On Sept. 23rd, at St. Mary's Villa, Huyton, near Liverpool, the wife of William Beecham, L.R.C.P., of a daughter.

LANGFORD.—On Sept. 26th, the wife of Phineas Pitts Langford, M.D., M.R.C.S., L.S.A., Park House, East Finchley, of a daughter.

LANGTON.—On Sept. 26th, at Marlborough-place, Brighton, the wife of Herbert Langton, M.R.C.S., of a daughter.

MARTIN.—On Sept. 28th, at Arnheim, Blackburn, the wife of John M. H. Martin, M.D., F.R.C.S.Eng., J.P., of twin daughters.

MASON,—On Sept. 25th, at Osnaburgh-terrace, Regent's-park, N.W., the wife of J. Wallace B. Mason, M.D., M.R.C.S., of a daughter.

PAUL.—On Sept. 25th, at 38, Rodney-street, Liverpool, the wife of F. T. Paul, F.R.C.S., of a son.

MARRIAGES.

ELLIOT—FURBER.—On Sept. 29th, at the Parish Church, Sundridge, Kent, William H. Wilson Elliot, Indian Medical Service, 4th Punjab Infantry, Punjab Frontier Force, eldest son of the late W. C. Elliot, Esq., M.D., 7th M.N.I., to Charlotte E. P., eldest daughter of the late Charles Furber, Esq., of Stanhope House, Upper Hamilton-terrace.

EWBANK—PRESTON.—On the Sept. 25th, at the Castle-gate Chapel, Nottingham, Henry Ewbank, M.R.C.S., of Priory Lodge, Cheltenham, eldest son of the late Charles Burbey Ewbank, of St. Germains, Cornwall, to Mary Elizabeth, eldest daughter of the late Martin Inett Preston, Solicitor, of Nottingham.

FABECK—FRERE.—On Sept. 15th, at Naples, F. W. A. de Fabeck, Brigade-Surgeon, Bengal Army (retired), to Laura Vansittart, youngest daughter of the late Charles Frere, Esq., of Wargrave, Berks.

FREEMAN—DICKINSON.—On Sept. 24th, at the Parish Church, Harpenden, Frederick William Freeman, F.C.S., of East Finchley, to Emily Elizabeth, daughter of John Dickinson, of Bamville Wood, Harpenden.

HAINES—LEARY.—On July 30th, at Woollahra, Sydney, by the Rev. J. Slattery, Hugh Gough Haines, F.R.C.S.E., son of the late Colonel Haines, to Alice, third daughter of the late Joseph Leary, Esq., M.L.A., of Blacham, Woollahra, N.S.W.

JOULE—JOULE.—On Sept. 24th, at St. James's, Paddington, by the Rev. G. C. Whalley, John Samuel Joule, M.D. Lond., of Maida Hill West, W., to Mary Alice, daughter of the late William Joule, of Manchester, and of Mrs. Joule, of Southport.

MARGERISON—PARKINSON.—On Sept. 30th, 1890, at the Parish Church, Calverley, Yorks., by the Rev. Jas. W. Hatton, M.A., Vicar, assisted by the Rev. G. L. James, Vicar of Girlington, Bradford, brother-in-law of the bride, Joseph, younger son of James Margerison, of Calverley Lodge, to Florence, third daughter of the late William Parkinson, M.R.C.S.E., Manor-row, Bradford.

MCSWINY—BELLAIRS.—On Sept. 27th, at St. Mary's, Cadogan-street, Myles O'Connell McSwiny, Staff Surgeon R.N., to Florence de Courcy, daughter of General Sir William Bellairs, K.C.M.G., C.B.

O'DOHERTY—DAVIDSON.—On Wednesday, Sept. 24th, at the Catholic Church, Formby, Liverpool, by the Rev. J. K. O'Doherty, Rector of St. Thomas of Canterbury, Manchester, brother of the bridegroom, Cornelius O'Doherty, M.D., 84, Rusholme-road, Manchester, to Margaret Jean (Jeanie), only daughter of the late Captain John Gordon Davidson, of Kebatty and Rutherford Castle, Aberdeenshire, and niece of R. D. Welch, Esq., of Liverpool.

POLLARD—GROVE.—On Sept. 24th, at Christ Church, Clifton, George Samuel Pollard, Esq., M.R.C.S., and L.R.C.P., of Midsomer Norton, Somerset, to Norah, eldest daughter of Major-General H. Leslie Grove.

DEATHS.

AYERST.—On Sept. 24th, at his residence, Linden-gardens, William Edward Ayerst, M.R.C.S., of Mandeville-place, Portman-square, in his 68th year.

HANDFIELD-JONES.—On Sept. 30th, at Montagu-square, Hyde-park, W., Charles Handfield-Jones, M.B. Cantab., F.R.S., aged 72.

QUICK.—On Sept. 27th, suddenly, at Westbourne-road, N., Frank Quick, M.R.C.S., aged 30.

ROGERS-HARRISON.—On Sept. 27th, at Vine House, Stockwell-road, London, S.W., Charles Henry Rogers-Harrison, F.R.C.S. Eng., in the 80th year of his age.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 2nd, 1890.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 a.m.
Sept. 26	30·45	S.W.	59	57	81	69	53	..	Overcast
,, 27	30·40	W.	63	61	90	75	59	..	Overcast
,, 28	30·28	N.W.	60	58	87	72	57	..	Cloudy
,, 29	30·11	N.W.	60	56	93	64	55	..	Bright
,, 30	30·00	S.W.	60	57	106	70	56	..	Cloudy
Oct. 1	29·77	S.W.	61	59	79	64	57	..	Cloudy
,, 2	30·30	N.W.	49	45	95	61	45	·04	Bright

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

MEDICAL ADVERTISING IN AUSTRALIA.

WE greatly regret to receive from time to time the most unblushing advertisements of medical skill and superiority over their brethren by practitioners in Australia, with reference chiefly to the "nervous debility" business, and other rubbish of that sort. We have before us two in point, one by "Dr. Perry, M.R.C.S., L.S.A.," of Sydney, who boasts of having been house surgeon to the Great Northern Hospital, and calls himself a Specialist in the Treatment of Diseases of the Reproductive Organs and Nervous Complaints; the other by "Dr. Alex. Paterson, A.M., M.D., C.M., F.R.C.S.Ed., M.R.C.S.Eng.," and who, with sweet modesty, says "no medical man advertising in these colonies has medical degrees which can be compared with his." The practitioners of Sydney should assemble, and express their opinion on such conduct, and call on the Colleges whose diplomas these gentlemen hold to vindicate their own honour and that of the profession.

Dr. Spinelli.—1. Hamilton: Text-book of Pathology, vol. i. 2. Coats: Manual of Pathology. 3. F. Payne: Manual of General Pathology. 4. Woodhead: Practical Pathology. 5. Green and Boyd: Pathological Anatomy.

Señor L. Aycart.—We cannot exchange.

"NOCTURNAL ENURESIS."

To the Editors of THE LANCET.

SIRS,—In reply to your correspondent, "Surgeon," whose letter appeared in your issue of Sept. 20th, I beg to advise that the old-fashioned remedy of a birch-rod be employed shortly before the boy is put to bed; and I will undertake to say that six not severe strokes repeated for two or three nights at the outside will effect a cure. The birching should be regarded by all parties not as punishment for the past, but as treatment for the future—a very different thing. The *rationale* I take to be (1) that it wakes up a desire to avoid wetting the bed; (2) that it draws the blood to the surface for a few hours, and thus relieves the pelvic organs; (3) that it stimulates the lumbar centre, controlling micturition through the nerves distributed to the upper gluteal region; and (4) that it prevents the patient lying on his back. I have known this method successful in a patient of seventeen, who "wetted" every night. I AM, Sirs, yours obediently,

September, 1890. EXPERTO CREDE.

THE WIVES OF DOCTORS.

WE are, perhaps, apt to forget how large a share in public estimation is enjoyed by worthy wives of distinguished members of the profession, and to how great an extent the support of their character and sympathy sustains and enables men for the arduous work of the front places of our profession. The Australian papers notice with much feeling the death of Mrs. T. N. Fitzgerald, the wife of the eminent Melbourne surgeon, as of a great favourite in society, and one beloved by all who knew her.

Mirabilis.—Such a course in *medical students* is not sanctioned by the authorities. A medical student is not meant to become a *midwife*. This would in obstetric language be an "abortion."

MEDICAL OFFICERS OF HEALTH AND OTHER PRACTITIONERS' PRIVATE PATIENTS.

To the Editors of THE LANCET.

SIRS,—I was attending a child who in my opinion was suffering from enterica. The case was a slight one, and as the parents were not overburdened with this world's goods one daily visit was thought to be quite sufficient. The case was notified in due form, and a few days afterwards the medical officer of health called at the house to inspect the drains, and at the same time expressed a wish to the mother to inspect the temperature chart. This was handed to him, and at once provoked his astonishment, concern, and grief. "What," he exclaimed, "the temperature taken only once a day"! At my next visit to this patient the anxious mother spoke to me seriously upon the subject. The expense of sickness was, she said, a heavy tax upon their income. Still, rather than see her child die, or even fail to get well as quickly as possible, they were ready and willing to make any sacrifice whatever, and asked me if I thought that the little patient ought to be seen oftener, and would it be better if the temperature were taken twice a day, &c. Now, no man is wise at all times; and the question is whether this action of the medical officer was a mark of his wisdom, or the reverse?

I am, Sirs, yours faithfully,

Sept. 24th, 1890. R. E. W.

*** The medical officer would have done better, if there were any doubt about the diagnosis, to have *privately* conferred with the practitioner in attendance as to having a few observations of evening temperature. It is unseemly for the medical officer of health to express or imply dissatisfaction with the medical attendant.—ED. L.

"MEDICAL BOOKKEEPING."

WE have received a communication from Dr. John Broom of Clifton, calling attention to the new system which he has devised, particulars of which may be had of the publishers, Messrs. John Wright and Co., Bristol, or their agents, Messrs. Simpkin, Marshall, and Co., London. We understand that the work is now in an advanced stage of publication, and specimen sheets will be sent on application.

Dr. Macdonald (Queensland).—We think the better course would be to submit the paper to the Society.

APPOINTMENTS WITH PHYSICIANS.

To the Editors of THE LANCET.

SIRS,—Now that physicians are returning to town (*vide The Times*, Sept. 24th) in anticipation of the winter season, may I suggest through the medium of your columns that some better method of arranging their consultations and appointments with those seeking their advice should be adopted than the present indiscriminate manner in which they are held. It more particularly concerns those from a distance, who, hoping to combine a day's shopping with the consultation, are grievously disappointed at finding their precious time ebbing away, looking over newspapers or the countenances of other victims in the dining-room of the physician, awaiting their turn. Surely, some plan of fixed appointments might be adopted, and instructions given to the attendants not to break through the list, unless the absence of anyone compelled it, so as to enable patients to apportion their time accordingly, and do away with gratuities and such-like methods of getting in quick to see the doctor.

It would be a satisfaction if the subject were ventilated in the columns of THE LANCET; for I feel sure there is very great dissatisfaction with the present system, especially among those living in the country.

I am, Sirs, yours faithfully,

Sept. 24th, 1890. G. P.

DISPENSING.

To the Editors of THE LANCET.

SIRS,—I should be grateful if some of your older readers would kindly give me any practical hints they could as to treatment or economy in dispensing, such as used to be imparted to pupils by masters in the apprenticeship days. I want to "focus" the old oral teaching.

I am, Sirs, yours faithfully,

E. PAGET THURSTAN, M.D. Cantab.

Denmark-hill, S.E., Sept. 30th, 1890.

ANTROPHORES IN UTERINE AFFECTIONS.

DR. EDMUND FALK, in a preliminary communication to the *Centralblatt für Gynæcologie* on the use of antrophores in uterine affections, points out that in the last few years cauterisation of the mucous membrane by chloride of zinc applied on cotton-wool, injections of tincture of iodine, and the curette have been the forms of treatment most extensively employed, while the use of medicated sticks or pencils has been more and more neglected. He believes this change to be due partly to the trouble in the application of the latter, but chiefly to the fact that medicated sticks made with cacao butter are too fragile, while gelatine makes them very soon insoluble, and consequently useless. He describes some experiments made under Dr. Laudau's superintendence with antrophores, such as have for some time been successfully used in affections of the male urethra, modified so as to make them suitable for intra-uterine treatment, and claims for this method that it is easy and simple to practise, and that it is freer from danger than injections.

W.—Our correspondent should consult his medical attendant. We do not prescribe.

SURGICAL INSTRUMENTS ON HIRE.

To the Editors of THE LANCET.

SIRS,—Can any of your readers inform me if there is any establishment in this country from which can be procured surgical instruments on hire? I do not think such an institution exists, and my object in writing this letter is to call attention to the want of such. Surgical instruments are so numerous and expensive that it does not pay a general practitioner to purchase such for use in one case when probably he may not again require the instrument for many years, if ever.

I am, Sirs, yours obediently,

September, 1890. SURGEON.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Savill, London; Dr. T. W. Robinson, Huddersfield; Dr. Paget Thurstan, London; Mr. Bilton Pollard; Dr. R. Sanderson, Brighton; Mr. J. H. Wilson, London; Mr. Pennell, London; Mr. Rickman, Marseilles; Mr. Barling, Birmingham; Mr. G. A. Hale, London; Messrs. Young and Sons, Liverpool; Mr. E. Snape, London; Messrs. Haasenstein and Vogler, Vienna; Dr. Gramshaw, Gravesend; Messrs. Burgoyne and Co., London; Mr. Woolrych, Burton-on-Trent; Mr. Vellum, New York; Dr. Spinelli, Naples; Dr. C. W. Jones, Bowdon; Dr. Oscar Jennings, Paris; Dr. Wiglesworth, Liverpool; Messrs. G. Street and Co., Cornhill; Mr. Laffan, Cashel; Dr. Keser, London; Messrs Condy and Mitchell, London; Mr. Stanwell, Rochdale; Messrs. Smith and Son, Birmingham; Dr. Culbard, Dunkeld, N.B.; Messrs. Parkins and Gotto, London; Mr. Watson, London; Mr. Morton; Messrs. Forder Bros., London; Mr. W. A. Tarser, Tobago; Dr. F. P. Davies, Barming Heath; Mr. Carment, Crieff; Dr. Rentoul, Liverpool; Mr. Armand Ruffer, London; Mr. H. C. Stoward, London; Dr. W. R. Pike, Provo City; Mr. G. Foy, Dublin; Mr. Bond, London; Dr. Hallows, Harle Syke; Mr. J. W. Rowland, London; Dr. G. C. Macdonald, Queensland; Mr. G. Cowell, London; Dr. Benjafield, Tasmania; Mr. A. G. Chitty, Hornsey; Mr. Nicholls, Somersham; Mr. Sheppard; Mr. D. Biddle, Kingston; Surgeon G. S. Thomson, Deesa; Mr. Warden, Calcutta; Mr. E. Cetti, London; Mr. C. J. Denny; Dr. C. O. Hunt Portland, Maine, U.S.A.; Rev. B. Waugh, London; Mr. F. E. Place, Exmouth; Mr. Capper, London; Mr. Blount, Paris; Messrs. Grace, Bristol; Mr. Norman, Cheltenham; Mr. Geringer, Basel; Mr. Hall, Sanbridgeworth; Miss Moorhouse, London; Mr. Garnett, Bloomsbury; Mr. Pinchard, Taunton; Mr. Shepherd, Guildford; Mr. Cole, Holywell; Mr. Clarke, Egremont; Mr. Sacker, London; Mr. T. B. Browne, London; Mr. Ford, London; Dr. Lavbury; Messrs. Lee and Nightingale, Liverpool; Mr. Eccles, London; Messrs. Fannin and Co., Dublin; Dr. Chadwick, Rochdale; Messrs. Orridge and Co., London; Mr. Leeson, Hornsey; Messrs. Oppenheimer Bros. and Co., London; Dr. Davies, Longton; Mr. L. Browne; Messrs. Vigers and Co., London; Mr. G. H. Cooke, Altrincham; Messrs. Allen and Hanburys, London; Mr. Cottingham, London; Mr. Wills; Mr. Dixon, Umballa; Mr. Scott, Manchester; Mr. Horsburgh; Mr. Tindale, London; Mr. Wilkinson, Birmingham; Secretary, Queen Charlotte's Hospital, London; Secretary, Royal Infirmary, Manchester; Experto Crede; Medical Superintendent, Wakefield; Secretary, Portsmouth Royal Hospital; Secretary, General Infirmary, Leeds; St. Peter Tavy Rectory, Devon; Oxonian, London; Secretary, Anderson's College Medical School, Glasgow; L. S., London; Maltine Manufacturing Co., Bloomsbury; Miss B., Plymouth; M.D., Aberdeen; Jones, North Wales; Secretary, General Infirmary, Worcester; Dean, Anderson's College, Glasgow; Medicus, Stockport; Law; Secretary, Cheltenham General Hospital; C. B. A.; Tynemouth; Secretary, Hospital for Women &c., Leeds; J. M. S.; Surgeon; Secretary, General Hospital, Nottingham.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Daniell, Petersfield; Mr. Carries, Llanelly; Mr. Forbes, Barnsley; Mr. Tully, Hastings; Mr. Jameson, Hexham; Mr. Swanton, Colney; Mr. Paul, Liverpool; Mr. Davies, Oswestry; Mr. Coates, London; Mr. O'Meara, Loughborough; Mr. Heard, Cork; Mr. Cooke, Powick; Mr. Dixey, Falmouth; Dr. Richards, Ledbury; Mr. Edwards, Cardiff; Dr. E. Avendano, Spain; Mr. Bond, London; Dr. Upson, London; Mr. Tyte, Minchinhampton; Mr. Wheeler, Manchester; Mr. Whittle, Liverpool; Mr. Hargitt, Sheffield; Mr. Nimble, Worcester; Mr. Sandoe, Cornwall; Mr. Murray, Stratho; Mr. Brodie, Bolton; Mr. Newman, Wellington; Mr. Berry, Wrexham; Mr. Wood, Arnold; Dr. Earlam, Worcester; Mr. Porter, Belfast; Mr. Nicholls, St. Ives; Mr. Birchall, Liverpool; Mr. Aveling, London; Mr. Ford, Torquay; Mr. Kempe, Birmingham; Dr. Diver, Kenley; The Hon. Mrs. Haines; Dr. Smith, Bradford; Miss Arkwright, Torquay; Mr. White, Yorks; Dr. Gordon, Salisbury; Mr. Sisson, Newcastle-on-Tyne; Messrs. Mitchell and Co., London; Dr. Maclagan, Northumberland; Dr. Langford, East Finchley; Mr. Flemyng, Dublin; Dr. Miller, Douglas; Messrs. Read and Co., Bristol; Mr. Hornibrook, Bloomsbury; Messrs. Hooper and Co., Pall Mall; Mr. Macdonald, Cockburnspath, N.B.; Mr. Herbert, Pendlebury; Mr. Duff, Burntisland; Mr. Hale, Chesterfield; Mr. T. Smith, London; Mr. Williams, Montgomery; Mr. Stenhouse, Glasgow; Mr. Hodgson, Peckham; Dr. Christison, Preston; Dr. Cameron, Liverpool; Mr. Deacon, Manchester; Dr. Margerison; Mr. Heywood, Manchester; Mr. Newcombe, Grantham; Mr. McDougall, Runcorn; Mr. Smith, co. Down; Surrey; G. B., London; Surgeon, Waltham Abbey; Eastern, London; M.R.C.P.I., London; H., London; Nurse Lloyd, Camborne; J. X., Regent's-park; Certainty, London; Canary Islands, London; P. R. L., London; C. P., London; M., Rhyl; Rose Cottage, Stockport; B. Y. U., London; Chancellor, London; D. R., Walsall; Companion, Windermere; K. L. W., London; M.B., Manchester; R. L. S., Holmwood; Medicus, Holloway; Tutor, Newcastle-on-Tyne; A. R. P., London; M.D., Northampton; Matron, General Hospital, Dudley; Cecil, London; M.B., Loughborough; B. S. W., London; H. H. L., London; M. I., London; Veritas, London; C. G., London; C., Leeds; A. H., London; Medicus, Plymouth; Dorcas, London; Physician, London; C. N., London; Fides, London; L. F., Essex; Immediate, Lower Edmonton; Scapula, London; Capable, London; Alpha, Bath; E. S., London; Dunelm, London; W. D., London.

NEWSPAPERS.—*Sheffield Independent, North British Daily Mail, South-Eastern Gazette, Irish Times, Edinburgh Evening Dispatch, Manchester Examiner, Lancaster Evening Post, Bradford Observer, Nottingham Daily Guardian, Swansea Gazette, Glasgow Evening Times, City Press, Local Government Chronicle, Birmingham Post, Teignmouth Gazette, Leeds Mercury, Western Morning News, Newcastle Leader, Yorkshire Post, Sunday Times, Weekly Free Press and Aberdeen Herald, Surrey Advertiser, Builder, Broad Arrow, Reading Mercury, Windsor and Eton Gazette, Bristol Mercury, Society, Kilkenny Journal, Chemist and Druggist, Sheffield Daily Telegraph, Metropolitan, Spectator, Windsor and Eton Express, Hertfordshire Mercury, West Middlesex Standard, Law Journal, Architect, Saturday Review, Mining Journal, Bridport News, St. Stephen's Review, Corriere D'Italia (Rio de Janeiro), Derby Mercury, Sussex Daily News, Pharmaceutical Journal, Guy's Hospital Gazette, Public Opinion, West Middlesex Advertiser, City Leader, Hunts County Guardian, Home and Colonial Mail, Observer, County Council Gazette, Reading Observer, Lynn Advertiser, North Star, West Ham Gazette, Bombay Gazette, Lewisham Gazette, Toronto Mail, Derbyshire Advertiser, Kanza City Star, Eastern Daily Press, Wigan Observer, The Tocsin, Darlington Times, Essex County Chronicle, Southampton Times, Admiralty Gazette, &c.*, have been received.

Medical Diary for the ensuing Week.

Monday, October 6.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.
ST. MARK'S HOSPITAL.—Operations, 2.30 P.M.; Tuesday, 2.30 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.

Tuesday, October 7.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.
GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic operations, 4 P.M.; Friday, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.
THE SANITARY INSTITUTE (Parkes Museum, Margaret-st., W.).—8 P.M. Mr. H. Law: Principles of Calculating Areas, Cubic Space, &c.; Interpretation of Plans and Sections to Scale.

Wednesday, October 8.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M. Operations by the Obstetric Physicians on Thursdays at 2 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.
CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M. Thursday & Saturday, same hour.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M.; Surgical Visits on Wednesday and Saturday at 9.15 A.M.
BRITISH GYNÆCOLOGICAL SOCIETY.—8.30 P.M. Dr. Barnes: The Correlation of Sexual Functions to Mental Disorders. Sir J. Crichton Brown and Drs. Mercier, Hack Tuke, G. Savage, and Wilks will take part in the Discussion. Council Meeting at 8 P.M.

Thursday, October 9.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

Friday, October 10.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
THE SANITARY INSTITUTE (Parkes Museum, Margaret-st., W.).—8 P.M. Dr. Louis Parkes: Water Supply, Drinking Water, Water Pollution.
CLINICAL SOCIETY OF LONDON.—8.30 P.M. Mr. W. H. Battle: A case of Suppuration in Hip-joint, Abscess of Neck of Femur, Operation, Primary Union, Recovery.—Mr. R. W. Parker: A case of Sudden and Fatal Dyspnœa due to a Bronchial Gland which had Ulcerated into the Trachea in a Child aged twelve months.—Mr. Bland Sutton: (1) A case of Excision of the Acromial Half of the Clavicle for Myeloid Sarcoma; (2) A case of severe Traumatic Sciatica successfully treated by the Removal of a Spiculum of Bone from the Edge of the great Sacro-sciatic Foramen.

Saturday, October 11.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

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